KNAUF

Price £99.00
€123.00

KNAUF

The Complete Drywall Manual
A guide to our drylining products and services

Build for the world we live in

We believe dry lining is about space creation, not space division.

Our systems combine innovative products to realise speed of installation and warranted high performance. Our service and experience ensure your design freedom remains uncompromised from concept to site.

Knauf – space creation to meet the demands of designers, contractors and clients.

Contents

Generate specifications at www.knauf.co.uk

The Fastest Route to the Best Solution for Your Application

1

Consult our 'Integrated, Innovative Systems' section to find the relevant solutions for the sector you are designing for

- Many of our systems are available in sector-optimised configurations

2

Review our 'Optimum Solutions' tables. For 99% of applications, you'll find the perfect solution already designed for you

- Helps you find your ideal solution rapidly
- Easy-to-read performance information for each construction
- Organised by sector to save you time

3

If you want to tailor make your solution, or wish to upgrade to a higher or unique specification, you will find our complete performance tables on pages 316–322

4

Review the system make-up, design detailing and installation procedures in our detailed 'Systems' pages

- Clear, easy-to-understand details
- Full installation instructions
- System overview with related components

The sector icons quickly identify the relevant sector applications for each product range:

Residential
Solutions for housing/hotels, plus residential elements of other buildings.

Commercial
Solutions for offices, administrative areas within buildings, commercial and retail environments.

The sector icons quickly identify the relevant sector applications for each product range:

Healthcare
Specialist solutions for hospitals, clinics and surgeries which meet HTM requirements.

Education
Solutions for schools, universities and training colleges which meet BB93 requirements.

Integrated, Innovative Systems

These pages highlight which Knauf Drywall systems are most suited to meet performance criteria and bring a variety of construction and end-user benefits to the sector you are designing for.

Housing, hotels, residential elements of other buildings
- Solutions designed to satisfy the Code for Sustainable Homes* and the Building Regulations
- Efficient dry lining solutions for residential partitioning and linings

* Used in conjunction with other systems

Schools, universities, training colleges
- Systems to meet BB93
- Solutions capable of meeting high impact criteria
- Durable, long-lived and easy to redecorate

Hospitals, clinics, surgeries
- Specialist systems designed to meet HTM document requirements
- Impact-resistant acoustic partitions

Offices, administrative areas within buildings, commercial and retail environments
- Systems designed to meet wide ranging thermal and acoustic Building Regulations criteria
- Solutions designed to provide fire resistance periods of up to 2 hours
- Dry lining solutions for tall separating walls

Sector generic systems
Specialist systems designed to meet HTM document requirements.

Generate specifications at www.knauf.co.uk

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Product Innovation, Delivering Solutions

We know that finding the best solution for your application is paramount and we are continually improving our ranges and introducing new products with new benefits to give you the leading design edge, through simplicity of construction, performance and value for money. These pages cherry-pick some of our latest and best innovations.

Controlled acoustics — unrestricted design
- Seamless patterns allow creative freedom
- 16 style options
- Combines aesthetics and acoustic control

Apertura 194

Eliminate tile failure
- Dedicated tile backers for floors and walls
- Unaffected by water
- Will NOT deteriorate in moisture-laden conditions
- Protects tiles from failure

Aquapanel Interior 184
Aquapanel Floor Tile Underlay 192

Rapid weatherproofing of structure
- Fast closure of buildings
- Unaffected by water
- Perfect for external soffits and ceilings
- Lighter and faster than traditional brick or block facades

Aquapanel External Linings 144

Optimise underfloor heating efficiency
- Strong, engineered dry screed board
- Thermally transparent
- Fast to install
- Optimises efficiency of underfloor heating systems

Brio Dry Floor Screed 142

Directly applied, pre-mixed plasters
- Pre-mixed, ready-to-use plasters
- Fast spray application
- Can be applied directly over concrete
- No water on site

Readymix Plasters 219

Reduce plastering schedules
- Fast spray application – up to 3 times faster than traditional
- Superb coverage and finish
- Cleaner sites with better health and safety
- Part E compliant

MPFinish 218
MP75 220

Instant energy saving
- Gives instant energy saving on refurbishments
- Combines lining with high-efficiency insulation
- Code for Sustainable Homes solutions

Insulating Laminates 86

Future-proof constructions
- Improved performance in many areas
- Can reduce layers of boards
- Reduce materials and waste on site
- Optimise design and construction solutions

High Performance Plasterboards 238

X-Ray protection without lead
- Removes the need for lead and all its problems
- Easy and fast to install
- Allows much greater design flexibility
- HPA tested – protection you can trust

Safeboard 176

A Responsible Approach

As a family-owned company producing lightweight building systems and products, we recognise our responsibility to operate a sustainable business that ensures a better quality of life for everyone, now and for generations to come.

Sustainability is central to our vision of doing the right thing for our clients, our people and the communities in which we work. To us, this means considering the long-term impacts of our business, such as energy reduction, resource efficiency and waste management, and applying these principles at the local level across our two manufacturing plants and throughout our business.

We implement our responsible approach by working to a range of policies:

- Our Health and Safety Policy states our commitment to 'ensuring the health, safety and welfare of our employees and other persons who may be affected by our activities, and to continually improve our safe working environment'.

- We have an Environmental Management System accredited to ISO 14001 and BES 6001 for Responsible Sourcing of Construction products. We have developed programmes to reduce our impact on the environment, including energy usage, transport, packaging, raw material usage, renewable and recycled materials and water usage.

- We ensure that our employees receive training, support and development opportunities to enable them to make a fulfilled and sustainable contribution to the company. We treat all stakeholders fairly and with respect and uphold fundamental labour rights. We will ensure our strategic suppliers have the necessary controls and processes in place to uphold the ten principles outlined in the UN Global Compact.

- We engage with the communities which are local to our operations and aim to make a positive contribution through economic, social, educational and charitable activities. We also seek to support broader, national community initiatives in a variety of ways.

- Our integrated management system enables us to monitor and review our own performance and that of our suppliers. We engage independent assessors to verify our performance and work closely with regulators to ensure that both preventative and reactive measures, where necessary, are used effectively.

Generate specifications at **www.knauf.co.uk**

Contributing to a sustainable built environment

Using recyclable, environmentally low-impact Knauf plasterboards in your buildings will enhance their energy efficiency – helping to meet the Building Regulations and reducing CO_2 emissions for the whole life of the building.

We're not only talking about new build; the same applies to the refurbishment of existing housing stock, schools, commercial or industrial premises – plasterboard constructions using our products achieve 'A' ratings in BRE's Green Guide to Specification.

Our product and how we make it

Our plasterboard is manufactured from the most sustainable sources of gypsum available and we only use 100% recycled paper liners. We work hard to ensure the most efficient use of our raw materials to deliver the most sustainable product to our customers.

Knauf plasterboard is durable, does not naturally deteriorate and is also simple to recycle, something which we can help with. We work with contractors to reduce their on-site waste and increase recycling capacity.

The same is true of our metal systems – built to last and entirely recyclable when required.

Our factories are modern, ultra efficient and use sophisticated heat recovery systems to minimise energy wastage. We are continuing to investigate and invest in alternative energy sources to reduce our impact on the environment further.

Generate specifications at **www.knauf.co.uk**

Our Systems

These are systems that meet all your application and construction needs.

Innovation, ease of use and integration go together to provide powerful, high-performance and simple-to-implement solutions across all building sectors.

Our Systems

Partitions

The Knauf range of drywall partitions is the result of decades of experience in developing, testing and supporting warranted systems that meet the needs of the modern building.

Quickly and simply constructed from high-quality Knauf components, our partitions are guaranteed to perform. You can specify Knauf partitions safe in the knowledge that these components have been comprehensively tested together to ensure performance, and that our support extends from concept to site.

System Selector
Partitions

Page	Key features	Fire resistance[1] (mins)	Sound reduction[2] (dB [Rw])	Partition width (mm)	Maximum height[4] (m)
16 Performer	• Simple, fast space division • Minimum components • Range of finishing options • Economical • Cross-sector application	UP TO 120	36–65	208 / 77	up to 11.1
42 Easybuild	• Optimum residential solution • 900mm stud centres • No insulation needed • Meets 40dB sound reduction requirements	30	40	82	up to 2.6
48 Silent Spacesaver	• High acoustic performance • Low overall width • High fire resistance	60–90	57–62	208 / 122	up to 5.7
60 Isolator	• The best acoustic performance • Twin frames provide physical separation • Accommodates large service runs • Separating Wall and Cinema Wall variants	60–120	45[3]–76	550 / 170	up to 5.7
72 Shaftwall	• Quickly constructed from one side • Unique 'C–T' Stud minimises components • Up to 2 hours fire rating	60–120	34–50	178 / 77	up to 8

1   Please check individual system pages for specific fire ratings to EN and BS standards.
2   Please check individual system pages for specific acoustic ratings.
3   45dB $D_{nT,w}+C_{tr}$ is an on-site figure to Approved Document Part E and complies with Robust Details E-WS-1.
4   Please check individual system pages for achievable specific maximum heights.

Knauf Performer

Knauf Performer is our most versatile partition solution, able to meet nearly every performance requirement. The Knauf Performer system is lightweight, strong and easy to install and can be specified with confidence for an enormous range of applications.

Knauf Performer Partitions

Knauf Performer copes easily with the most demanding fire, sound, moisture and impact resistance requirements. Knauf components are designed to work together guaranteeing you a fully integrated system.

Head Track

Knauf 'U' Channel forms head plate.

Knauf Deep Flange 'U' Channel for deflection head details.

Stud

Knauf metal studs simply twist and snap into head and floor tracks.

Knauf 'C' Stud lightweight steel section.

Knauf Acoustic 'C' Stud for enhanced sound reducing constructions.

Knauf 'I' Stud allows taller, stiffer partitions.

Knauf Plasterboard

The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

Door Head

Knauf Deep Flange 'U' Channel snipped, bent, returned and fixed to vertical stud.

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Floor Track

Knauf 'U' Channel secured to floor.

Key Features

- Versatile, light, fast and easy to install
- System can utilise the entire range of boards
- Optimised solutions to meet sector-specific requirements
- Minimum amount of components required to construct
- Comprehensively tested, developed and site-proven

Other Components

Knauf Movement Control Joint is an aluminium 'V' section used to bridge gaps left for expansion and contraction.

Knauf Sealant seals gaps and minimises airborne sound transmission.

Knauf Fixing Channel/Knauf Flat Fixing Plate provides a fixing for horizontal joints or support for fixtures.

Knauf Resilient Bar is fixed to floors to reduce direct sound transmission.

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions.
See our full guide on page 210.

Our range of Partition Solutions includes:

Generate specifications at www.knauf.co.uk

16 Performer

Performer 17

Knauf Performer

Installation procedures

Knauf Performer partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Performer partitions must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1, 2

Knauf 'U' Channels should be used for the head and base of the partition. Knauf 'C' Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant or Knauf Intumescent and Acoustic Mastic as specified. Secure with suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together. Replace Knauf 'U' Channel with a Knauf Deep Flange 'U' Channel when forming a deflection head.

Partitions constructed to provide fire and/or acoustic separation are required to span from structural floor to structural soffit.

Vertical Studs 3

Studs should be positioned within the channels to coincide with the abutments of the boards, at centres dependant on the performance requirement of the system. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed.

Knauf 'C' and 'I' Studs should be trimmed to within 5mm of the slab to soffit height. For deflection heads: studs should be cut short to allow for required clearance within Knauf Deep Flange 'U' Channel. Knauf 'C' Studs can be extended by forming a splicing detail. See details 30 and 31 on page 40.

Insulation

Subject to the performance requirements, once the studs have been located in the Knauf 'U' Channels and one side has been boarded, Knauf insulation as specified should be inserted between the studs vertically. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or vertically between different rolls.

Support for Horizontal Joints in Facings

To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs, secured with two Knauf Wafer Head Jackpoint Screws per stud to both faces or between board layers.

Doorways 4, 5, 6, 7

The head is formed with Knauf Deep Flange 'U' Channel, snipped and bent back and screw-fixed with Knauf Wafer Head Jackpoint Screws to the studs. See details 28 and 29 on pages 38–39.

Boarding 8

All boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm maximum centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, floor and abutments, board edges should be bedded on to continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by at least 600mm.

Deflection Heads

The maximum deflection allowance should be no more than half the flange length of the Knauf Deep Flange 'U' Channel and for a downward direction.

1. After fixing the head track, the floor track should be positioned by using a vertical stud and a laser/spirit level.

2. Fixing Knauf 'C' Stud to form the partition frame abutment.

3. Twisting Knauf 'C' Stud into position.
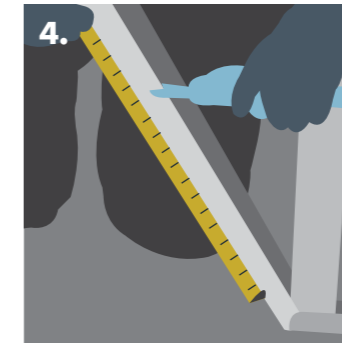
4. Snip and bend back Knauf 'U' Channel for extra rigidity around door openings.

5. Insert timber battens within Knauf 'C' Studs to provide fixing for door frame (if required).
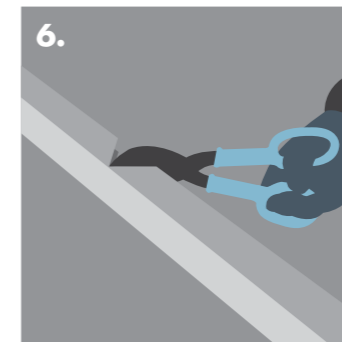
6. Snip and bend back Knauf Deep Flange 'U' Channel to form the door frame.

7. Fixing Knauf Deep Flange 'U' Channel to studs at door opening.

8. Fixing Knauf Plasterboard to the completed framework.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

Knauf Performer

Fast track to your optimum solution

1 Choose your sector

2 Find your performance levels

3 Find your solution

🏠 Residential   🏢 Commercial

🏛 Education   ✚ Healthcare

- **Sound**
- **Dimensions**
- **Fire**
- **Impact Duty**

Please note – you can find our full range of Performer Solutions in the Appendix on pages 316–319.

Looking for our full Knauf Performer performance tables?

These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the appendices section on pages 316–319 or contact our Knauf Technical team on 01795 416259.

Performance you can trust

All Knauf Performer Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Performer Partition is fully covered by our performance warranty.

🏠 Performer for Residential Projects

Performer PFR1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 Layer of 12.5mm Knauf Wallboard each side of 50mm Knauf 'C' Studs at 600mm centres, with 25mm Knauf Earthwool Acoustic Roll within the cavity	40dB(Rw)	30mins	2500mm	77mm	Medium

Performer PFR2/08	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Wallboard each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres	40dB(Rw)	30mins	4000mm	102mm	Heavy

Performer PFR3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 12.5mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres	40dB(Rw)	30mins	3600mm	97mm	Heavy

🏛 Performer for Educational Projects

Performer PFE1/08	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres	40dB(Rw)	60mins	4000mm	102mm	Severe

Performer PFE2/08	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	49dB(Rw)	60mins	4000mm	102mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

🏛 Performer for Educational Projects continued

Performer PFE3/08	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 50mm Knauf Earthwool Acoustic Roll within the cavity	50dB(Rw)	60mins	4000mm	102mm	Severe

Performer PFE4/08	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Impact Panel each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 25mm, Knauf Earthwool Acoustic Roll within the cavity	57dB(Rw)	120mins	5100mm	132mm	Severe

Performer PFE7/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with Knauf Resilient Bars at 600mm vertical centres one side and 50mm Knauf Earthwool Acoustic Roll within the cavity	62dB(Rw)	90mins	4200mm	148mm	Severe

Performer PFE8/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with Knauf Resilient Bars at 600mm vertical centres both sides and 50mm Knauf Earthwool Acoustic Roll within the cavity	65dB(Rw)	90mins	3200mm	164mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Knauf Performer

Fast track to your optimum solution

1 Choose your sector

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🏠 Residential

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✚ Healthcare

- **Sound**
- **Dimensions**
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Performance you can trust

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Insisting on genuine Knauf components throughout will ensure your Knauf Performer Partition is fully covered by our performance warranty.

✚ Performer for Healthcare Projects

Performer PFH1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	45dB(Rw)	60mins	3800mm	102mm	Severe

Performer PFH2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Soundshield Plus each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	48dB(Rw)	60mins	4000mm	102mm	Severe

Performer PFH3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Soundshield Plus each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within the cavity	50dB(Rw)	60mins	4000mm	102mm	Severe

Performer PFH4/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	54dB(Rw)	60mins	4600mm	122mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.
For systems which exceed the performance requirements noted above, please refer to the Knauf Silent Spacesaver and Knauf Isolator partition systems on pages 54 and 66.

🏢 Performer Solutions for Commercial Projects

Commercial projects encompass a very wide range of situations and subsequent performance requirements, making a practical 'Optimised Solutions' list difficult to produce.

Please refer to our easy-to-use performance tables in the back of this manual to find your optimised solution.

Our Performer Partitions range includes solutions ranging from simple, narrow 30 minute fire rated partitions to high privacy, tall 2 hour partitions.

If you have an unusual situation then Knauf Technical Services are on hand to help.
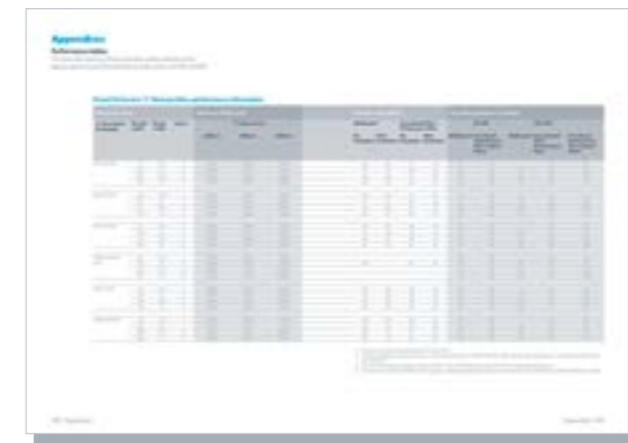
Full performance data for Knauf 'C' Stud Performer Partitions can be found on pages 316–317.

Full performance data for Knauf 'I' Stud Performer Partitions can be found on pages 318–319.

Knauf Performer

Application Details

These details represent some of the most common design situations relevant to the Knauf Performer partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

'C' and 'I' Stud single boarded

Detail 1

Any type of Knauf plasterboard can be fixed to Knauf 'C' and 'I' Studs, to achieve different performance requirements.

- Joints taped and filled
- Knauf Plasterboard
- Knauf Earthwool Acoustic Roll if required
- Knauf Drywall Screws at 300mm centres
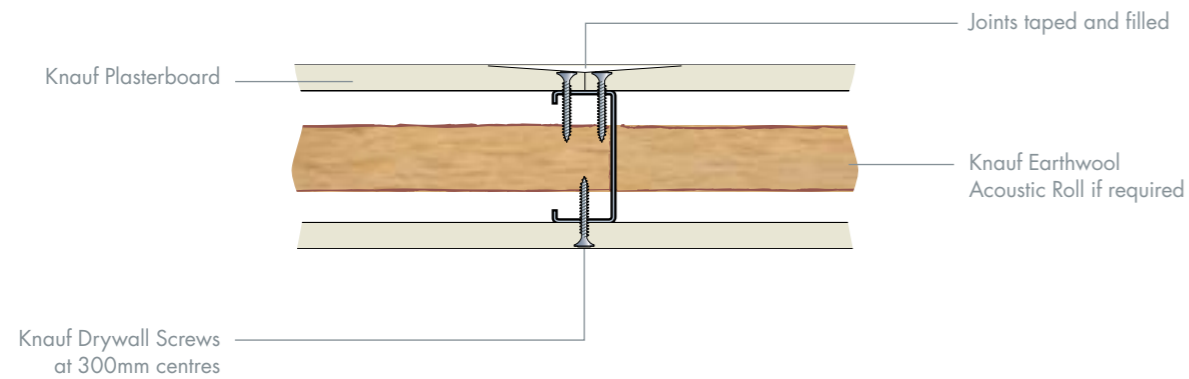
'C' and 'I' Stud double boarded

Detail 2

Double boarding is one method to achieve increased performance levels. For example: by double boarding with Knauf Wallboard, up to 1 hour fire resistance can be achieved.

- Knauf Drywall Screws at 300mm centres
- Double layer of Knauf Plasterboard
- Knauf Earthwool Acoustic Roll if required
- Joints taped and filled

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Standard head and floor

Detail 3
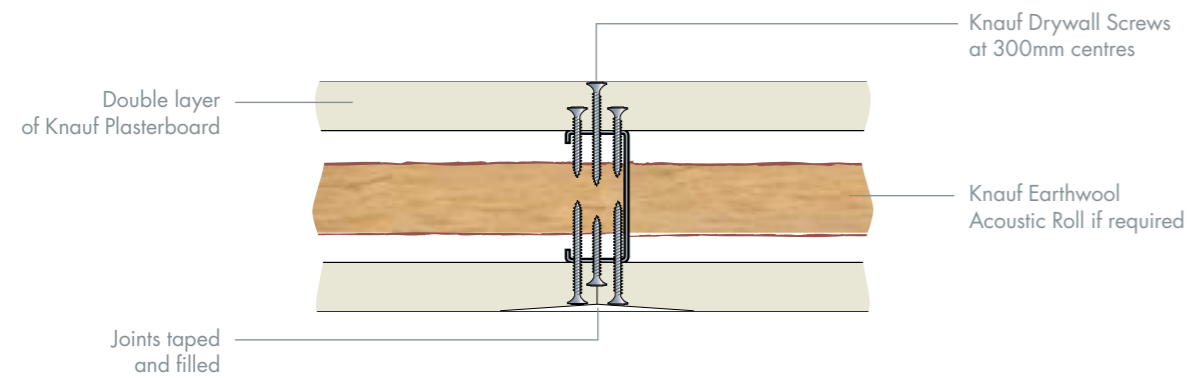
The Knauf 'U' Channel should be fixed to the structural soffit at maximum 600mm centres. Knauf 'U' Channels should be bedded securely onto continuous beads of Knauf Sealant to ensure optimum sound reduction by preventing air paths. If deflection of the soffit is expected, please refer to deflection head detailing.

- Knauf Nailable Plug or suitable fixings at 600mm maximum centres
- Knauf Sealant or Knauf Intumescent and Acoustic Mastic
- Knauf 'U' Channel
- Knauf Drywall Screws at 300mm centres
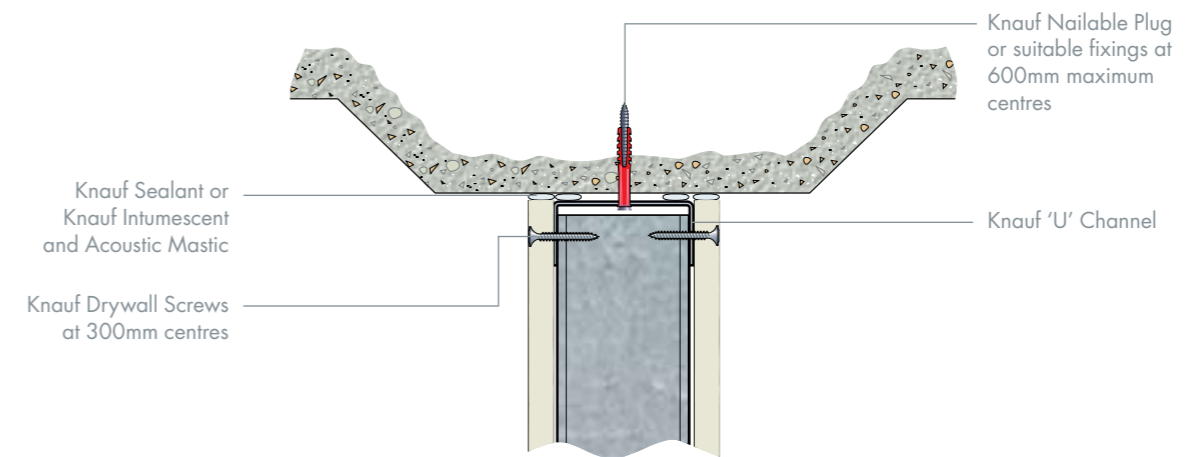
The floor detail is a mirror image of the standard head detail. Single facings are shown as an example. Partitions should always be fixed to the structural floor.

- Knauf Drywall Screws at 300mm centres
- Knauf 'C' or 'I' Studs at 600mm maximum centres
- Knauf Sealant
- Knauf 'U' Channel
- Knauf Nailable Plug or suitable fixing at 600mm maximum centres

Knauf Performer

Deflection head detail, up to 30 minutes fire resistance

Detail 4

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural soffit
- Softwood timber sized to suit deflection allowance
- Knauf Sealant
- Knauf Deep Flange 'U' Channel
- Knauf Plasterboard to suit specification
- Knauf Flat Fixing Plate
- Knauf Intumescent and Acoustic Mastic
- Deflection allowance
- Deflection allowance
- Deflection allowance
- Knauf Drywall screws at 300mm centres
- Knauf 'C' or 'I' Studs to suit partition specification

Deflection head detail, 30 minutes fire resistance

Detail 5

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural soffit
- Deflection allowance
- Deflection allowance
- Deflection allowance
- Knauf Drywall screws at 300mm centres
- Knauf Intumescent and Acoustic Mastic
- Knauf Plasterboard fillets ensuring 10mm minimum board overlap
- Knauf Sealant
- Knauf Deep Flange 'U' Channel
- Knauf Plasterboard to suit specification
- Knauf Flat Fixing Plate

Deflection head detail, up to 90 minutes fire resistance

Detail 6

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Structural soffit
- Layers of Knauf Core Board or Fire Panel to suit deflection amount ensuring 10mm minimum board overlap
- 10mm
- Knauf Sealant
- Knauf 'C' or 'I' Studs to suit partition specification
- Minimum 2 layers of Knauf Plasterboard to suit specification
- Knauf Intumescent and Acoustic Mastic
- Deflection allowance
- Deflection allowance
- Knauf Deep Flange 'U' Channel
- Deflection allowance
- Knauf Screws at 300mm centres
- Knauf Flat Fixing Plate

Deflection head detail, 120 minutes fire resistance

Detail 7

- Nailable Plug or suitable fixing at 600mm centres
- Structural soffit
- 25 x 50mm Knauf Angle Section
- Knauf Universal Slab RS60
- Knauf Sealant
- Layers of Knauf Core Board or Fire Panel to suit deflection amount ensuring 10mm board overlap
- Minimum 2 layers of Knauf Fire Panel or Impact Panel to meet 120 minutes fire resistance
- Knauf Intumescent and Acoustic Mastic
- Deflection allowance
- Deflection allowance
- Knauf Deep Flange 'U' Channel
- Deflection allowance
- Knauf Screws at 300mm centres
- Knauf Flat Fixing Plate

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Performer

Deflection head detail, 120 minutes fire resistance

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Knauf Intumescent and Acoustic Mastic
- Structural soffit
- 25 x 50mm Knauf Angle Section
- Knauf Universal Slab RS60
- Deflection allowance
- Knauf Deep Flange 'U' Channel
- Deflection allowance
- Tabs cut into track and bent up to retain insulation
- Minimum 2 layers of Knauf Fire Panel or Impact Panel to meet 120 minutes fire resistance
- Knauf Drywall screws at 300mm centres
- Knauf Flat Fixing Plate

Typical head detail to rib-deck, fire resistance dependent on partition specification

- Fire stopping insulation by others to suit fire protection period
- Rib deck soffit
- Structural soffit
- Knauf Fixing Channel fixed to soffit with suitable fixings at 600mm centres
- Knauf Intumescent and Acoustic Mastic
- Deflection allowance
- Layers of Knauf Fire Panel or Core Board to suit fire rating and deflection allowance
- Deflection allowance
- Minimum 10mm board overlap
- Knauf Deep Flange 'U' Channel
- Deflection allowance
- Knauf Sealant
- Knauf Screws at 600mm centres
- Knauf Screws at 300mm centres
- Knauf 'C' or 'I' Studs at centres to suit specification
- Knauf Flat Fixing Plate

Note: When partition line runs across line of rib-deck soffit, fill with fire stopping insulation.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Corner 90°

Fixings at the junction should be made from stud to stud. Knauf 'C' Studs form intersections in both 'I' and 'C' Stud Performer partitions.

- Knauf Screws at 300mm centres
- Taped and jointed
- Knauf 'C' Studs at intersections
- Knauf Drywall screws at 600mm centres for stud to stud fixings
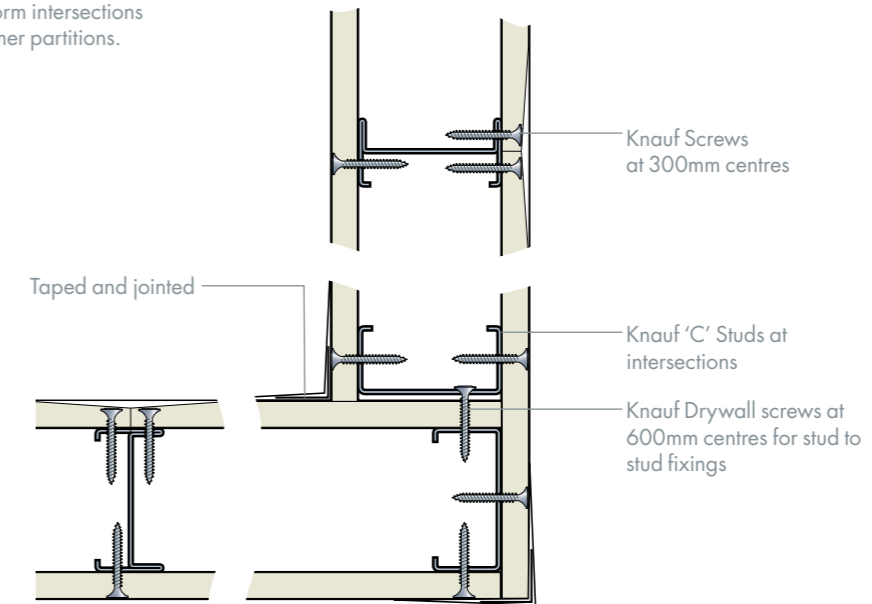
Splayed corner

Treated and prepared timber grounds can be incorporated to create splayed corners. Knauf 'C' Studs form intersections in both 'I' and 'C' Stud Performer partitions.

- Knauf Screws at 300mm centres
- Taped and jointed
- Knauf 'C' Studs screw-fixed to timber grounds at 600mm maximum centres
- Shaped timber ground

Knauf Performer

Abutment T-junction

Detail 12

Fixing at the junctions should be made from stud to stud. Extra studs should be included if required.

- Knauf Drywall screws at 600mm maximum centres for stud to stud fixings
- Knauf Drywall screws at 300mm centres
- Taped and jointed
- Knauf Drywall Screws at 300mm centres
- Knauf Plasterboard to suit specification
- Knauf insulation if required
- Additional Knauf 'C' or 'I' Stud at intersection
- Knauf Sealant
- Knauf 'C' or 'I' Stud to suit specification

Abutment T-junction, high performance flanking intersection

Detail 13

Where there are high acoustic requirements a flanking detail should be considered.

- Knauf 'C' or 'I' Studs at centres to specification
- Taped and jointed
- Knauf Plasterboard to suit specification
- Knauf insulation if required
- Knauf Sealant
- Knauf 'C' Studs at abutments
- Knauf Drywall Screws at 300mm centres

Abutment T-junction, alternative flanking detail

Detail 14

Fixing at the junctions should be made from stud to stud. Extra studs should be included. A break in the plasterboard helps to prevent flanking sound transmission.

- Suitable fixings at 600mm centres
- Knauf Drywall Screws at 300mm centres
- Taped and jointed
- Knauf Plasterboard to suit specification
- Knauf insulation if required
- Additional Knauf 'C' or 'I' Stud
- Knauf Drywall screws at 300mm centres
- Knauf Sealant

Abutment – direct bonding where partition is fire rated

Detail 15
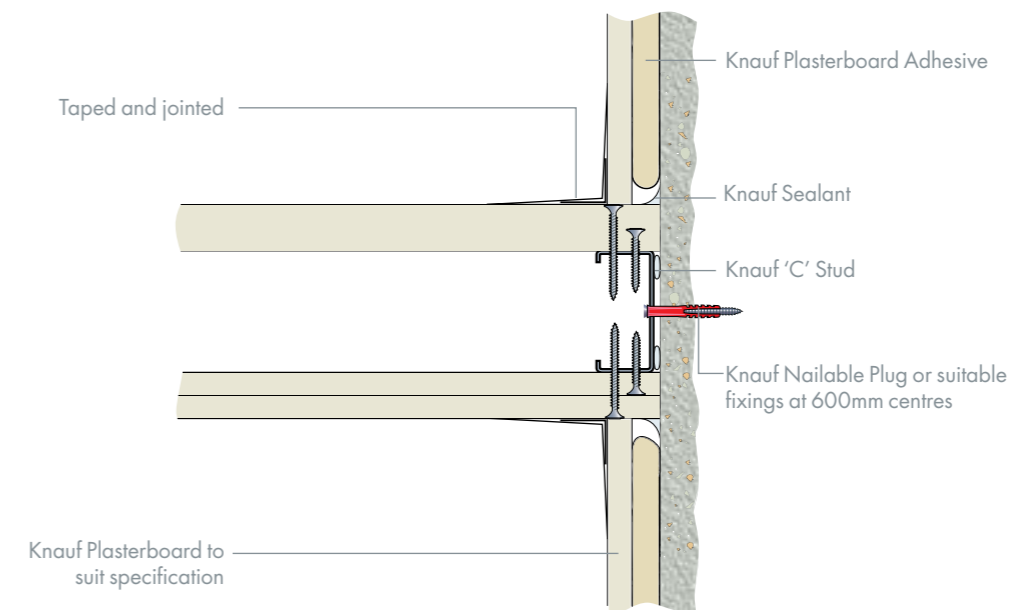
- Taped and jointed
- Knauf Plasterboard to suit specification
- Knauf Plasterboard Adhesive
- Knauf Sealant
- Knauf 'C' Stud
- Knauf Nailable Plug or suitable fixings at 600mm centres

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Performer

Abutment
Detail 16

Direct bonding of Knauf Insulating Laminate where partition is fire rated.

Taped and jointed

Knauf Plasterboard Adhesive

Knauf Sealant

Knauf insulation to maintain thermal performance

Knauf 'C' Stud

Knauf Nailable Plug or suitable fixings at 600mm centres

Knauf Insulating Laminate to suit thermal requirements

Pipe penetration
Detail 17

Suitable for small pipes – typically up to 40mm diameter. The mineral wool must be secured around the pipe with wire or mesh.

Knauf Universal Slab RS33

10mm

50mm

Knauf Intumescent and Acoustic Mastic

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Pipe penetration
Detail 18

For pipes with a diameter up to 160mm, a Fire Collar is fixed to both sides in accordance with the manufacturer's recommendations.

Fire Collar

Knauf Intumescent and Acoustic Mastic
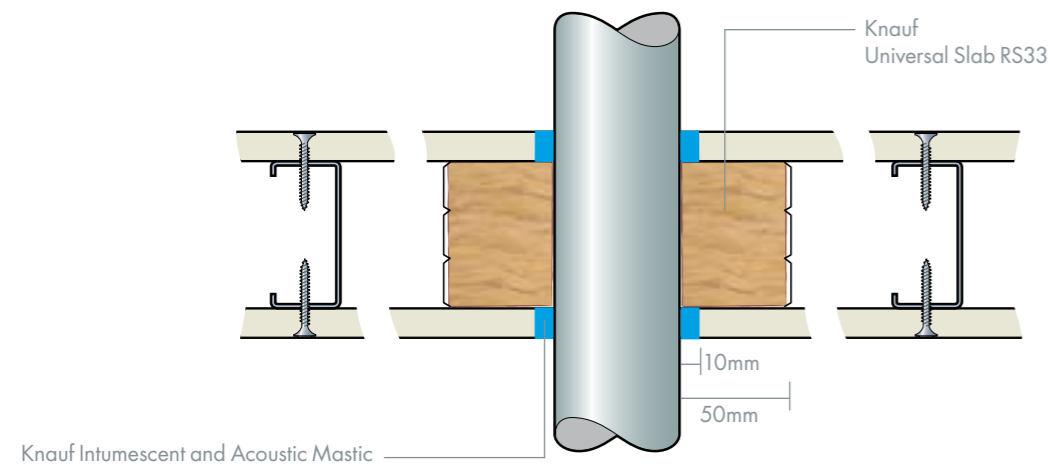
Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic

Duct penetration
Detail 19

For pipes and ducts above 160mm diameter. Knauf 'C' Studs and 'U' Channels form an opening for the duct. Fire dampers in ductwork, when present, should be independently supported and installed with regard to the manufacturer's instructions.
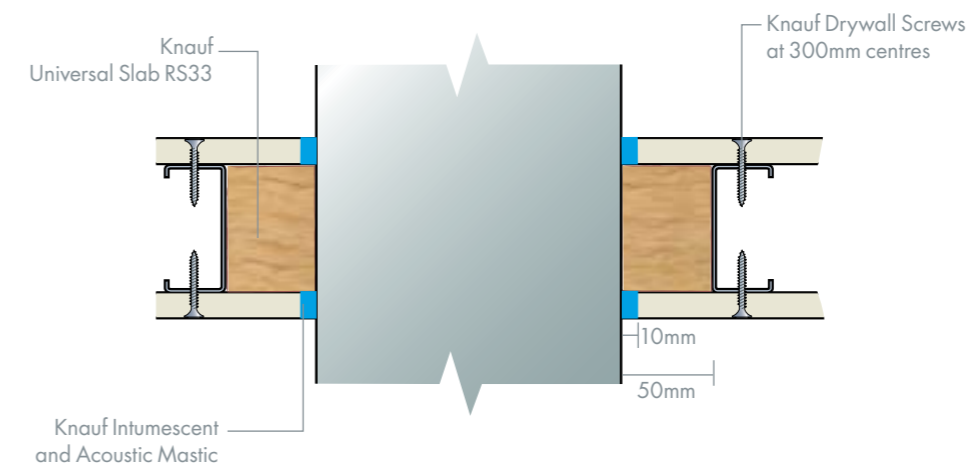
Knauf Universal Slab RS33

Knauf Drywall Screws at 300mm centres

10mm

50mm

Knauf Intumescent and Acoustic Mastic

Knauf Performer

Detail 20

Knauf Plasterboard to suit specification

Additional Knauf 'C' Studs as trimmers each side of opening

Knauf Plasterboard returned and screw-fixed to trimming stud/channel as lining to opening

Ends of Knauf Deep Flange or Knauf 'U' Channel snipped, bent and turned up or down a minimum 300mm and fixed to studs with two Knauf Wafer Head Jackpoint Screws each side

Fire stopping insulation (by others)
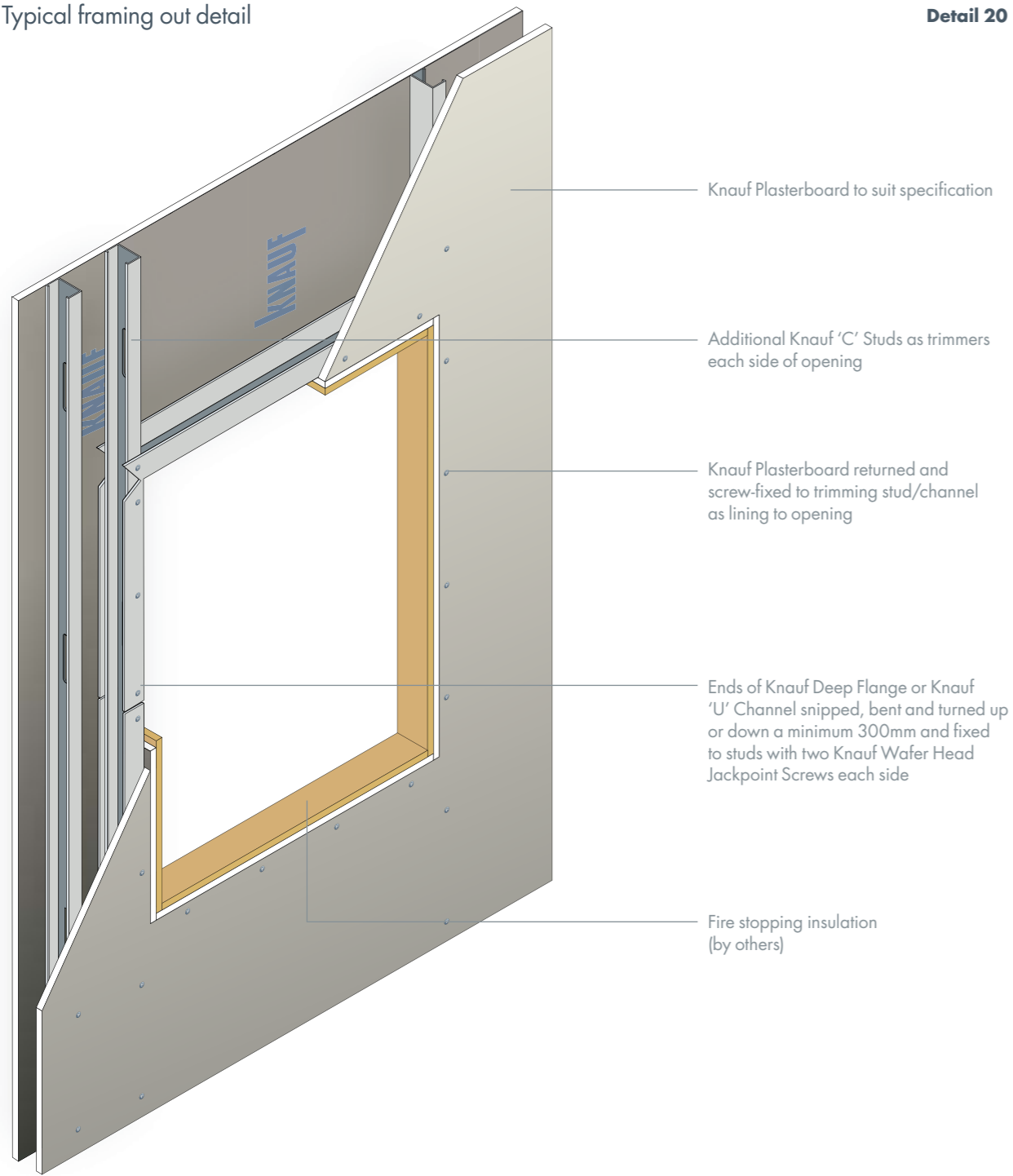
Movement control joint

Detail 21

Allows lateral movement of up to 7mm. The control joint must be fixed at 150mm centres on both edges. This detail maintains the fire resistance of a 1 hour partition.

Knauf Universal Slab RS33

Knauf Movement Control Joint

Knauf Plasterboard to suit specification
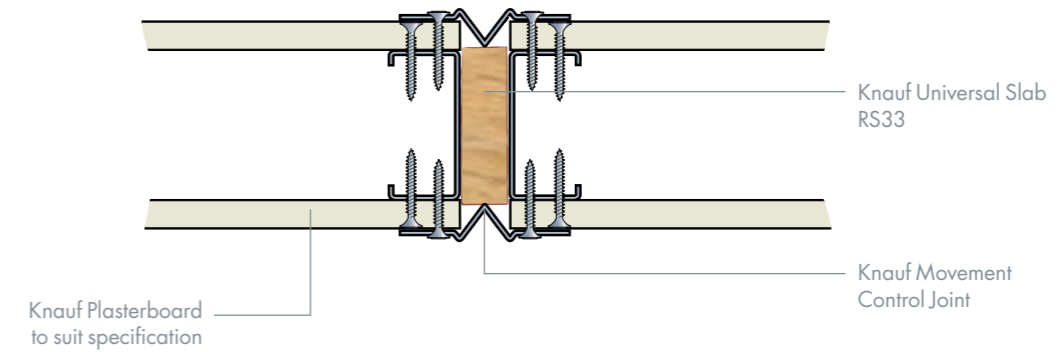
Expansion joint

Detail 22

This allows more movement than the previous detail, in conjunction with a shadow gap formed by Knauf Edge Beads. This detail can provide up to 2 hours fire resistance, when designed into a double layer Knauf Performer 2 hour partition.
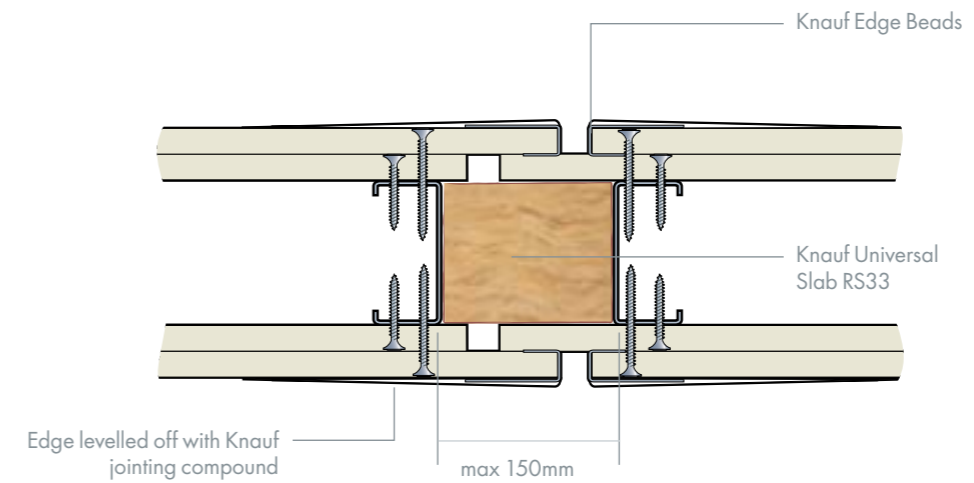
Knauf Edge Beads

Knauf Universal Slab RS33

Edge levelled off with Knauf jointing compound

max 150mm

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Performer

Lightweight fixings parallel to surface

Suitable for mediumweight fixings where the applied load is fixed and continuous, and for lightweight fixings where the load may be subject to some movement (e.g. through removable objects). Complies with BS 5234.

• Suggested applications: Curtain rails, pictures.

Knauf Wafer Head Jackpoint Screws

Knauf Fixing Channel fixed to studs
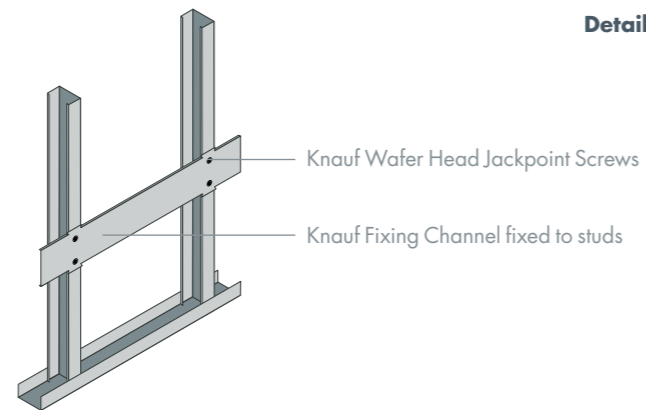
Heavyweight fixings parallel to surface

Suitable for heavyweight fixings where the applied load is fixed and continuous, and for mediumweight fixings where the load may be subject to some movement (eg. through removable objects). Complies with BS 5234.

• Suggested applications: baths (lateral location only), cupboards, shelving, handrails, radiators.

Horizontal 50mm Knauf 'U' Channel screwed between verticals with Knauf Wafer Head Jackpoint Screws

Sawn softwood nogging inserted into channel and trimmed to fit flush to stud surface

Flanges of Knauf Fixing Channel cut and edges flattened back

Heavyweight fixings with moment

For use where the applied load is not directly adjacent to the board surface, thus producing a twisting force that the other fixing details are not capable of withstanding. It is also suitable for fixing items that are likely to receive rougher than usual treatment. Complies with BS 5234.

• Suggested applications: TV mounting arms, pay telephones and hoods, disabled grab rails.
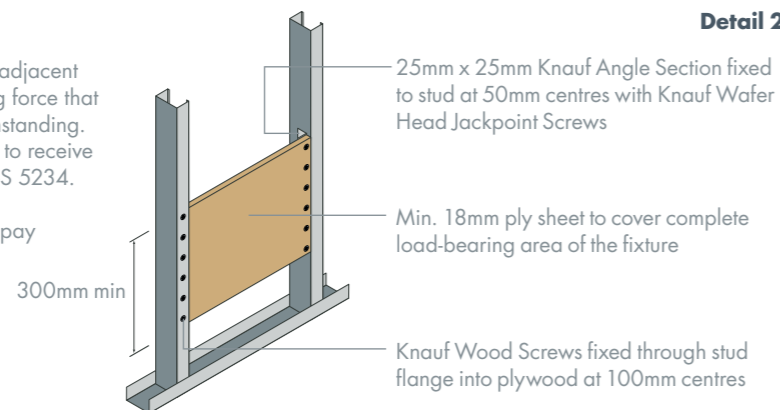
300mm min

25mm x 25mm Knauf Angle Section fixed to stud at 50mm centres with Knauf Wafer Head Jackpoint Screws

Min. 18mm ply sheet to cover complete load-bearing area of the fixture

Knauf Wood Screws fixed through stud flange into plywood at 100mm centres

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Sockets and switches
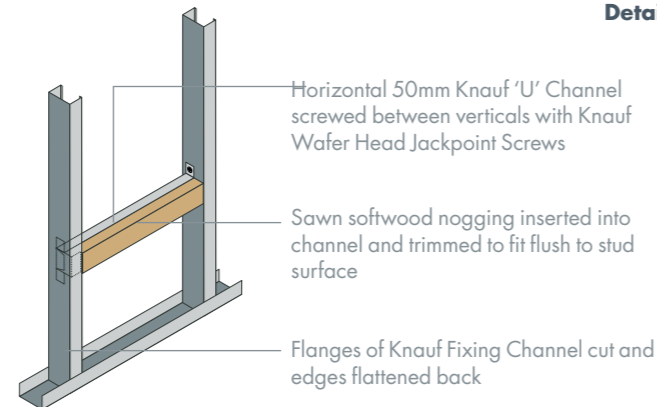
These can be fixed back to Knauf 'U' Channels or sections of Knauf Fixing Channels fitted between studs. Mineral wool packing maintains the fire resistance of the partition up to 1–2 hours. For higher fire resistance periods, contact Knauf Technical Services.

Insulation to extend a minimum 300mm above and around socket

Knauf 'U' Channel fixed to studs

Socket or switch

Insulation to extend a minimum 300mm below and around socket

Knauf Plasterboard

Knauf Universal Slab RS33
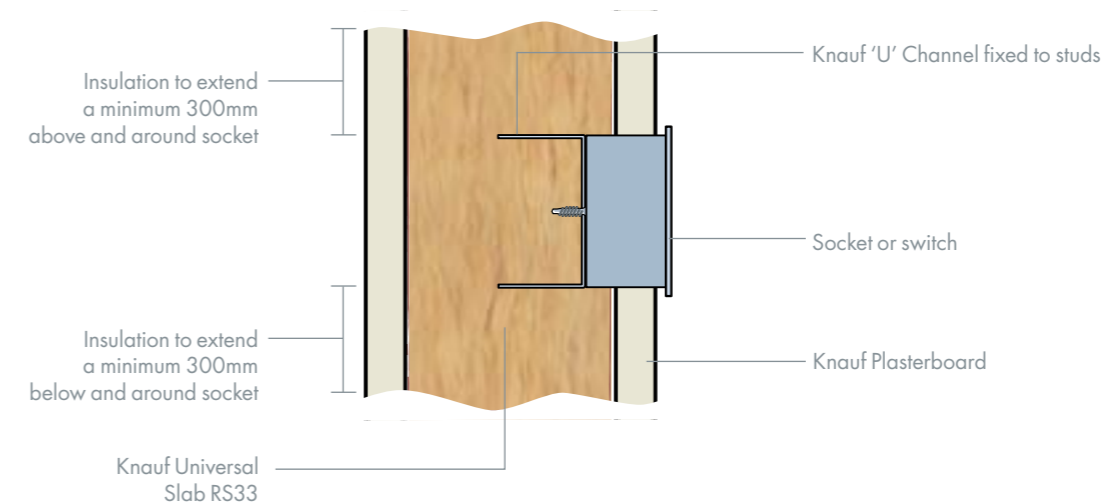
Sockets and switches

Knauf Putty Pads are quick and easy to install and are capable of maintaining a fire rating of up to 2 hours in suitable Knauf systems and an acoustic rating of up to 60dB(Rw). Approved by Robust Details Ltd.

Partition to suit specification

Knauf Putty Pad

Socket box by others

Knauf Performer

Doorway, 0–60kg door jamb

Knauf Deep Flange 'U' Channel (to suit deflection allowance) fixed to structural soffit at maximum 600mm centres

Knauf Deep Flange 'U' Channel cut and bent down jamb stud each side, secured with Knauf Wafer Head Screws at intersections and at 200mm centres on each return

Knauf Flat Fixing Plate (if required within the appropriate deflection head detail)

Knauf Wafer Head Screws at 300mm maximum centres

Minimum 250mm – to meet channel below

Knauf Deep Flange 'U' Channel section to each side of door opening fitted between returned legs at door head and base

Knauf 'C' Stud to each side of door jamb

Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb. Remainder of Knauf 'U' Channel secured at 600mm centres

300mm turned up floor channel secured with Knauf Wafer Head Screws at 150mm centres

Knauf 'U' Channel with 300mm leg cut and returned up door jamb stud

150mm

Note: Timber ground not required for structural performance, but may be required by door manufacturer. Door jamb arrangement repeated both sides of door opening. Position of flat fixing plate to suit deflection allowance (if required).

Doorway, 60–100kg door jamb

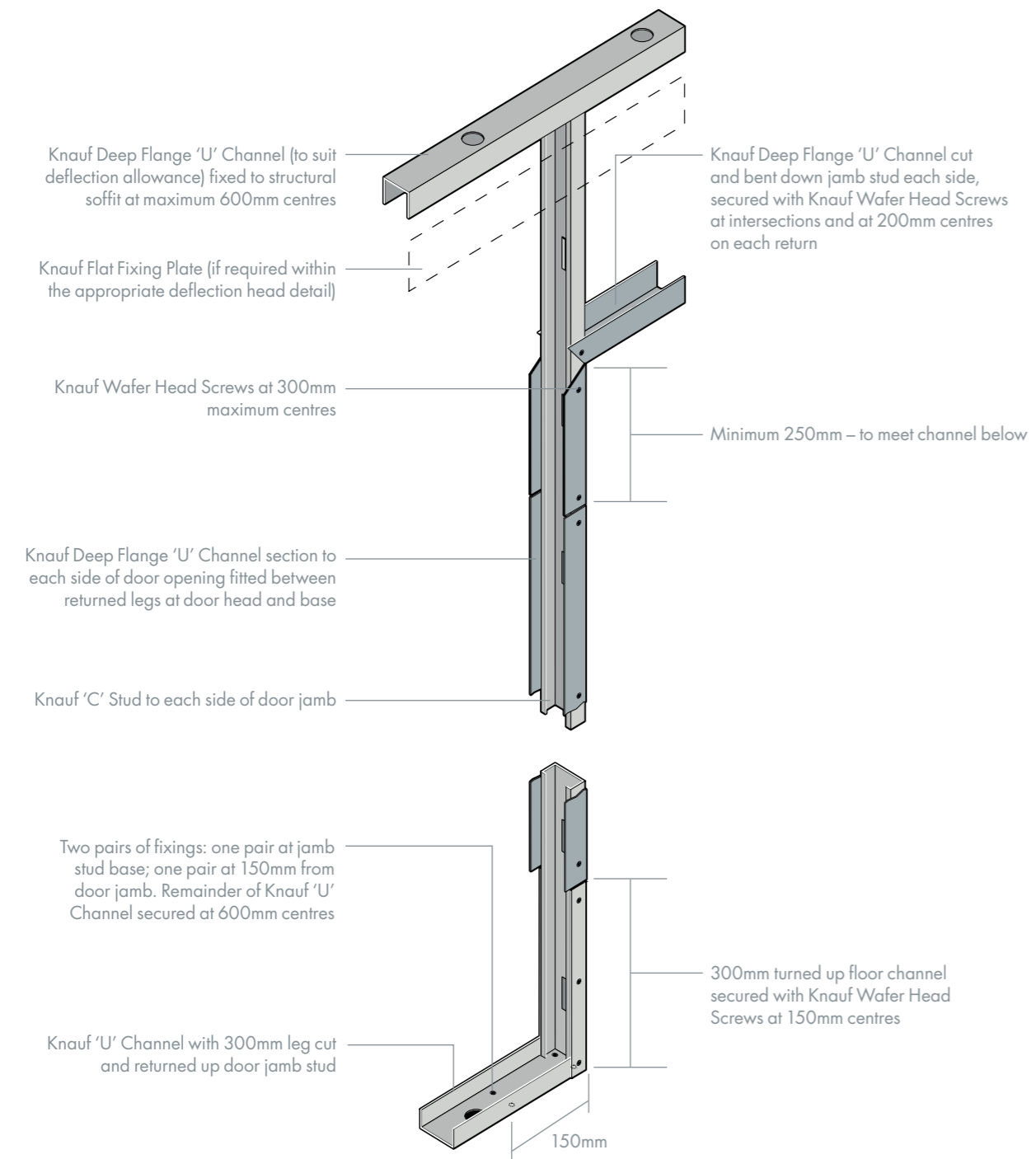Knauf Deep Flange 'U' Channel (70mm flange) fixed to structural soffit at maximum 600mm centres

Knauf Flat Fixing Plate (If required within the appropriate deflection head detail)

Knauf Deep Flange 'U' Channel (70mm flange) cut and bent down jamb stud each side, secured with Knauf Wafer Head Screws at intersections and at 200mm centres on each return

Additional Knauf 'C' Stud positioned 150mm from door jamb stud each side of door opening

Knauf Wafer Head Screws at 300mm maximum centres

Minimum 250mm – to meet channel below

Knauf Deep Flange 'U' Channel (70mm flange) section to each side of door opening fitted between returned legs at door head and base

Knauf 'C' Stud to each side of door jamb

Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb. Remainder of Knauf 'U' Channel secured at 600mm centres

300mm turned up floor channel secured with Knauf Wafer Head Screws at 150mm centres

Knauf 'U' Channel with 300mm leg cut and returned up door jamb stud

150mm
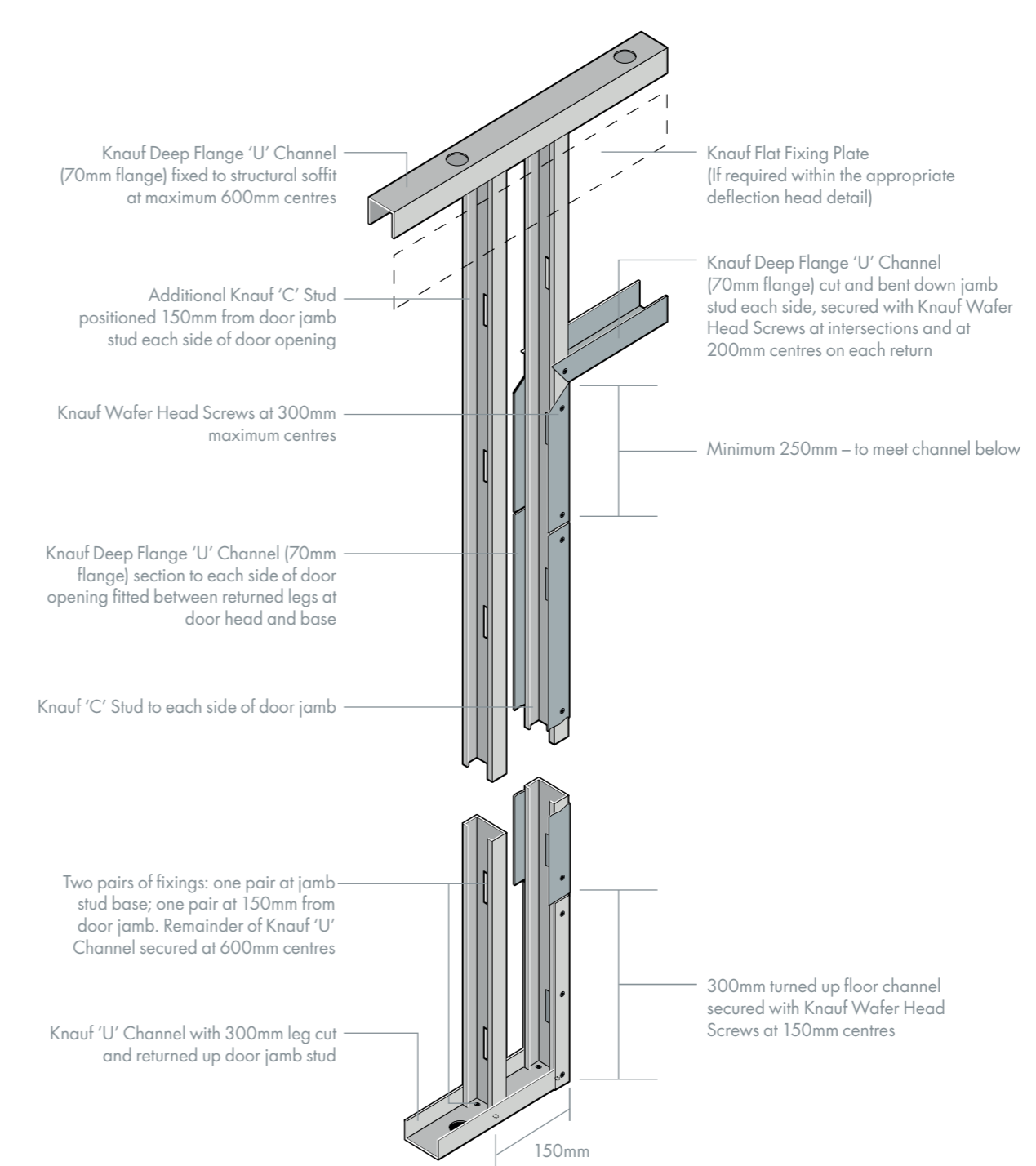
Note: Timber ground not required for structural performance, but may be required by door manufacturer. Door jamb arrangement repeated both sides of door opening. Position of flat fixing plate to suit deflection allowance (if required).
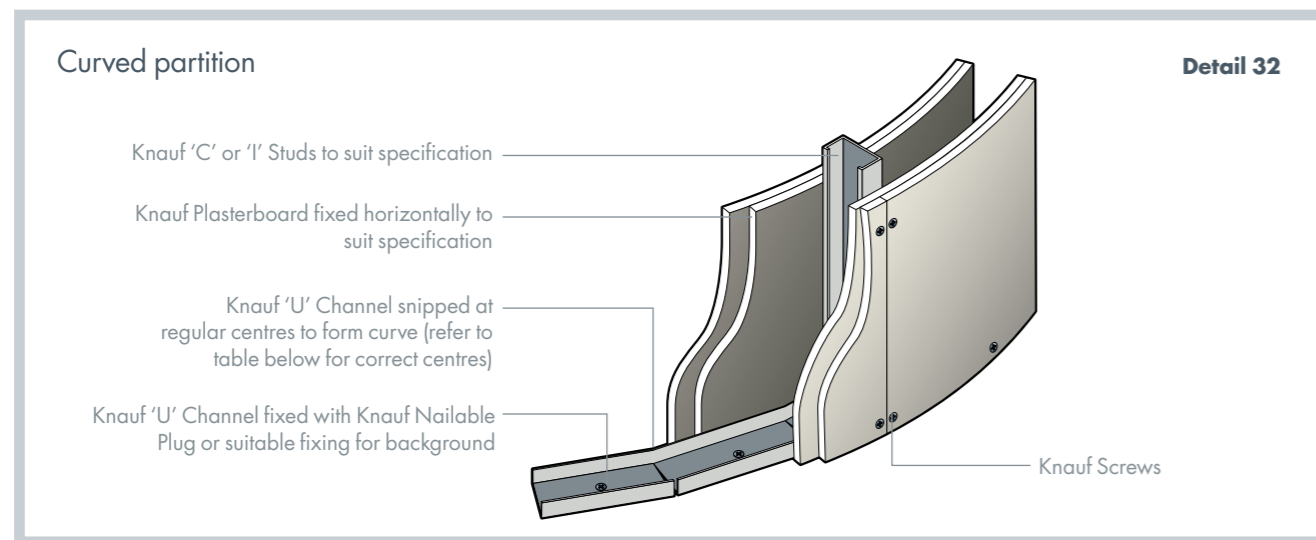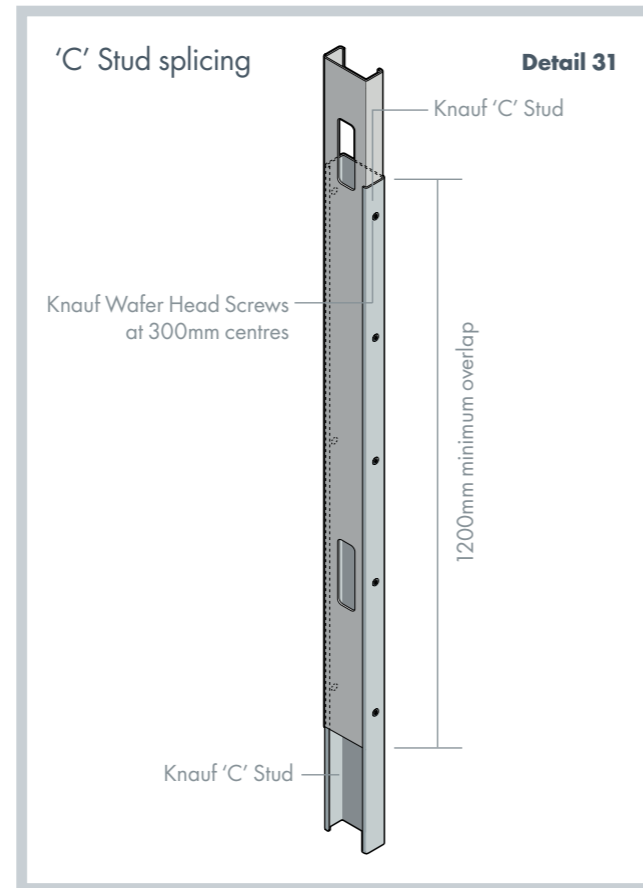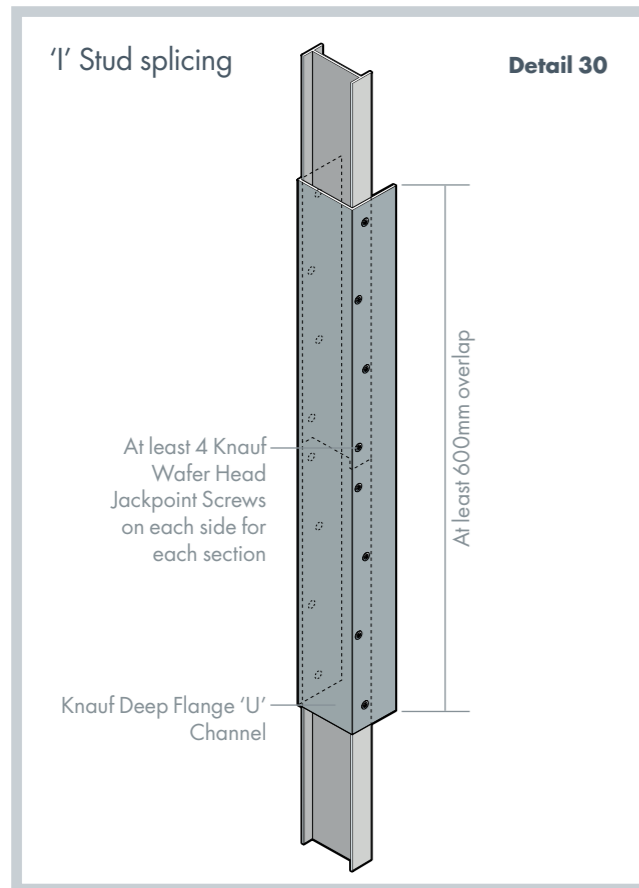
Knauf Performer

'I' Stud splicing

Detail 30

At least 4 Knauf Wafer Head Jackpoint Screws on each side for each section

Knauf Deep Flange 'U' Channel

At least 600mm overlap

'C' Stud splicing

Detail 31

Knauf 'C' Stud

Knauf Wafer Head Screws at 300mm centres

1200mm minimum overlap

Knauf 'C' Stud

Curved partition

Detail 32

Knauf 'C' or 'I' Studs to suit specification

Knauf Plasterboard fixed horizontally to suit specification

Knauf 'U' Channel snipped at regular centres to form curve (refer to table below for correct centres)

Knauf 'U' Channel fixed with Knauf Nailable Plug or suitable fixing for background

Knauf Screws

Radius	'U' Channel Cuts at (centres)	'U' Channel Fixed at (centres)	Studs at (centres)
5 metres plus	300mm	600mm	600mm
3–5 metres	100mm	400mm	300mm
1–3 metres	50mm	300mm	150mm

* Stud centres also dependant on partition maximum height

Knauf recommended minimum board bending radii**

Knauf Board Thickness	Minimum Radius
9.5mm	1 metre
12.5mm	1.5 metres
15mm	2.5 metres

** Based on Knauf Wallboard

Generate specifications at **www.knauf.co.uk**

TOMORROW'S FUTURE TODAY

🏠 Knauf Easybuild

Knauf Easybuild has been developed to reduce the number of components and speed up the construction of internal partitions in residential situations. Easybuild is the most efficient solution for your residential project.

Head Track

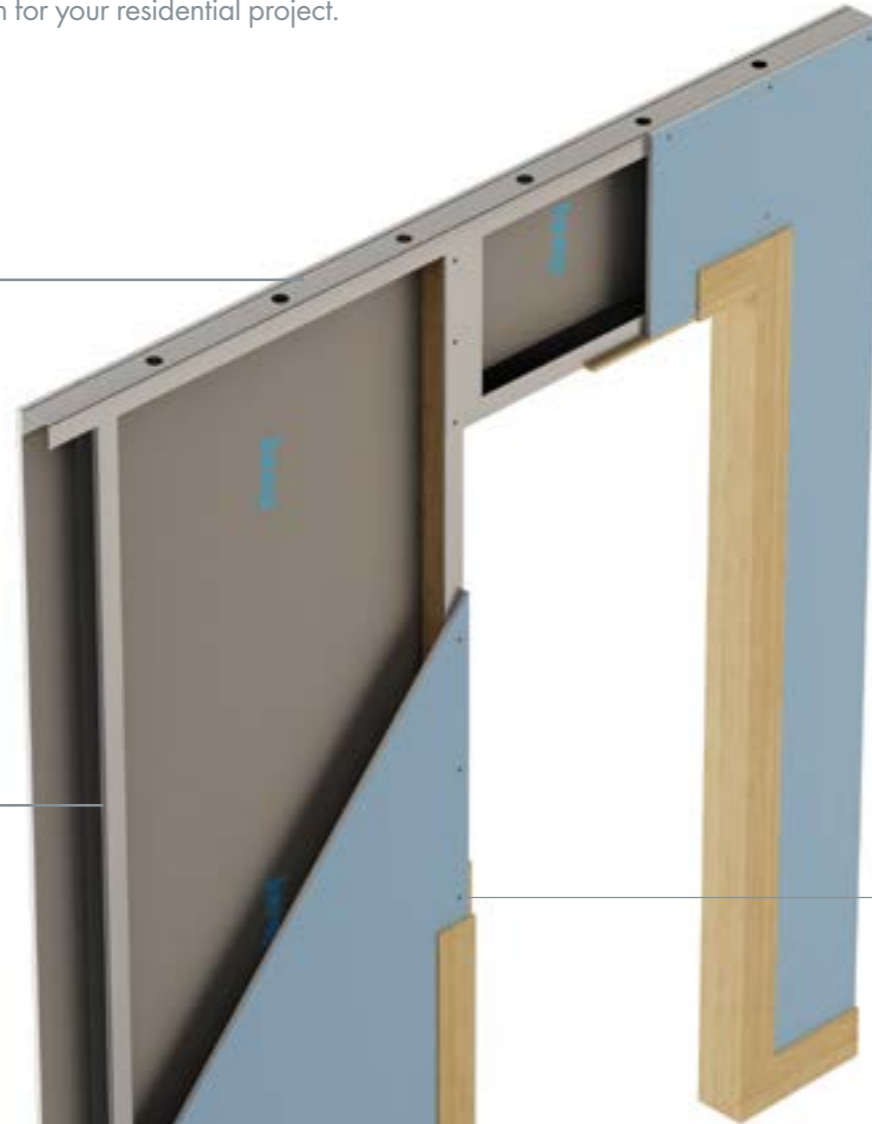Knauf 'U' Channel secured to the soffit forms head plate.

Stud

Knauf Acoustic 'C' Studs simply twist and snap into head and floor tracks.

Floor Track

Knauf 'U' Channel secured to floor.

Knauf Soundshield Plus

15mm Knauf Soundshield Plus maintains the strength of the partition and meets the acoustic requirements without the need for an insulation quilt.

Easybuild Partitions

Knauf Easybuild has been designed to be constructed using the minimum of components, with studs at 900mm centres for speed and economy of installation.

Key Features

- Minimum number of components
- Studs at 900mm centres
- No insulation quilt required
- Meets Approved Document E 40dB(Rw) sound reduction requirements
- Simple and quick to install

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Other Components

Knauf Fixing Channel/Knauf Flat Plate provides fixing for horizontal joints or support for fixtures.

Knauf Sealant seals gaps, minimises airborne sound transmission.

Finishing

Our complete range of finishing products includes hand- and machine-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Our range of Partition Solutions includes:

Performer	16
Silent Spacesaver	48
Isolator	60
Shaftwall	72

Knauf Easybuild

Your optimum solution for internal residential partitions

Our efficient Knauf Easybuild partition system utilises high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Easybuild partition is fully covered by our performance warranty.

Easybuild for Residential Projects

Easybuild EBR1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Soundshield Plus each side of 50mm Knauf Acoustic 'C' Studs at 900mm centres	40dB(Rw)	30mins	2600mm	82mm	Medium

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Knauf Easybuild

Installation Procedure

The Knauf Easybuild partition system is designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Easybuild must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1,2

52mm Knauf 'U' Channels should be used for the head and base of the partition. 50mm Knauf Acoustic 'C' Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant and secure with suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

Fixing the head track.

Fixing the first stud to the adjoining wall.

Partitions constructed to provide fire and/or acoustic separation are required to span from structural floor to structural soffit.

Vertical Studs 3,4

50mm Knauf Acoustic 'C' Studs should be positioned within the channels to coincide with the vertical edge of the 900mm wide 15mm Knauf Soundshield Plus boards, at 900mm centres. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed. 50mm Knauf Acoustic 'C' Studs should be trimmed to within 5mm of the slab to soffit height.

Support for Horizontal Joints in Facings

To back horizontal joints, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs, secured with two Knauf Wafer Head Screws per stud to both faces.

Doorways 5,6

The head is formed with 52mm Knauf 'U' Channel, snipped, bent and screw-fixed with Knauf Wafer Head Screws to the web of the door jamb studs. See detail 4 on page 47. In addition, a timber ground should be fitted within the door jamb studs to allow for fixing of the door set.

Boarding 7,8

All 900mm wide 15mm Knauf Soundshield Plus boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at maximum 400mm centres. Fixing centres should be reduced to 200mm at corners. Boarding should commence at one end and work across the partition. At head, floor and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Tape and joint for a seamless finish.
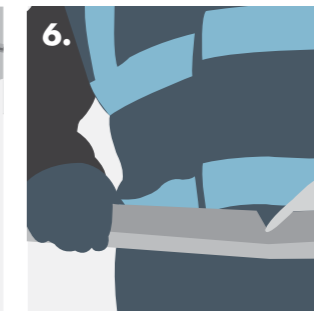

Twisting Knauf Acoustic 'C' Studs into position.

Positioning studs at 900mm centres.

Inserting timber ground into jamb stud door opening.

Snip and bend Knauf 'U' Channel to form door head.

Fixing the 15mm Knauf Soundshield Plus to Knauf Acoustic 'C' Stud.

Tape and joint for a seamless finish.
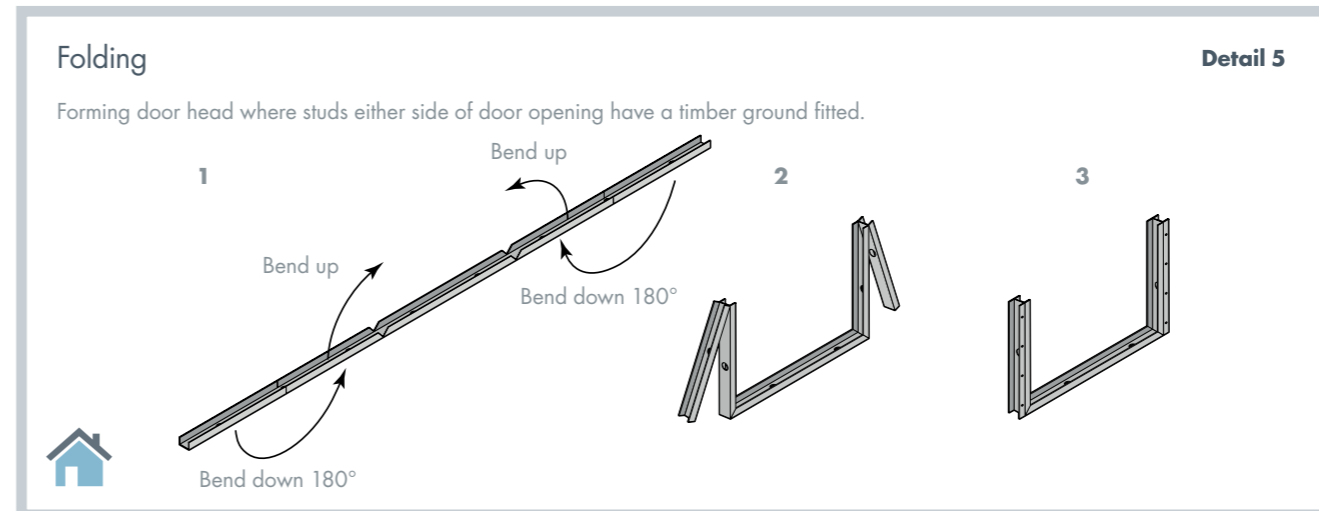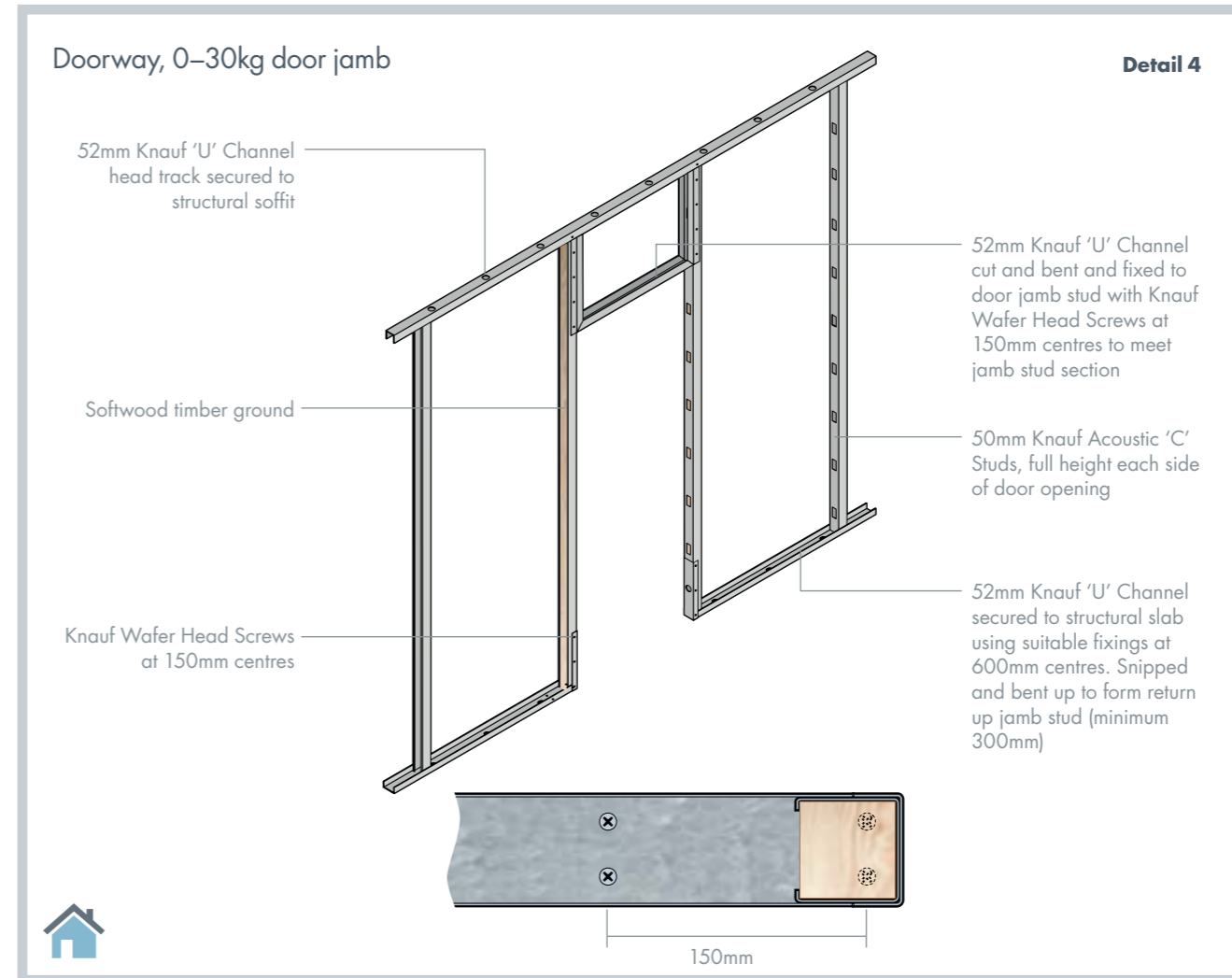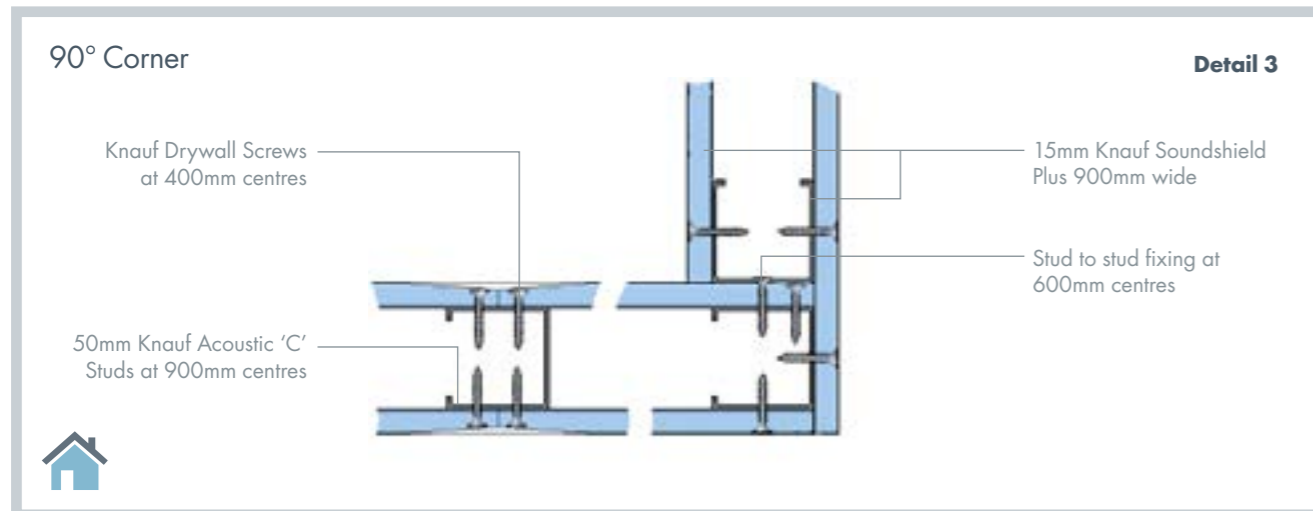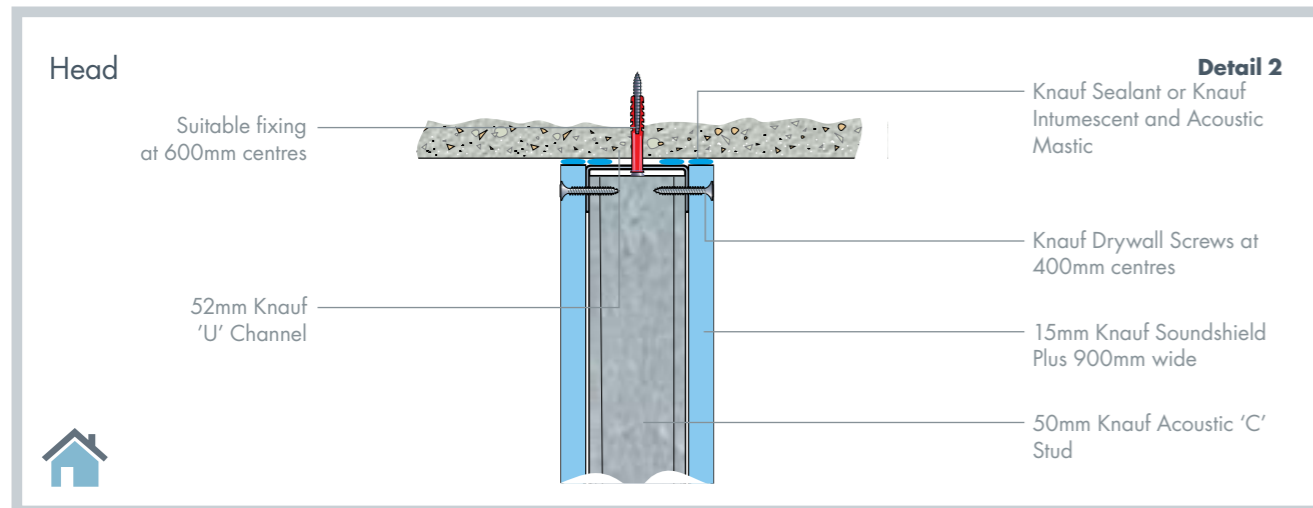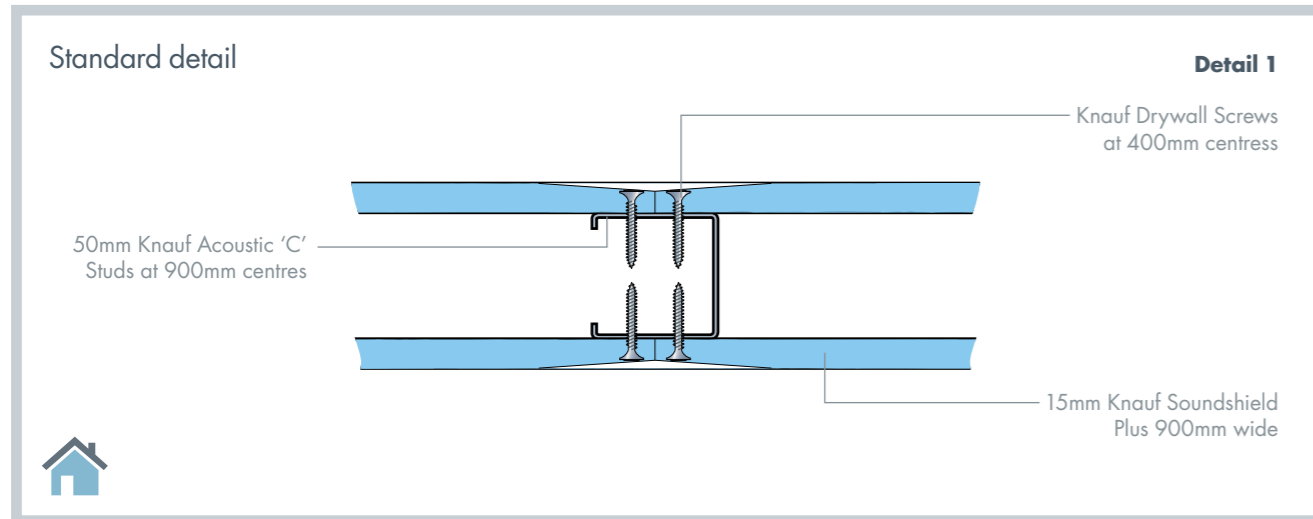
Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

Knauf Easybuild

Application Details

These details represent some of the design situations relevant to the Knauf Easybuild partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve. The most common details, such as a T-junction are similar to the Knauf Performer range.

Standard detail
Detail 1

- Knauf Drywall Screws at 400mm centress
- 50mm Knauf Acoustic 'C' Studs at 900mm centres
- 15mm Knauf Soundshield Plus 900mm wide

Head
Detail 2

- Suitable fixing at 600mm centres
- Knauf Sealant or Knauf Intumescent and Acoustic Mastic
- Knauf Drywall Screws at 400mm centres
- 52mm Knauf 'U' Channel
- 15mm Knauf Soundshield Plus 900mm wide
- 50mm Knauf Acoustic 'C' Stud

90° Corner
Detail 3

- Knauf Drywall Screws at 400mm centres
- 15mm Knauf Soundshield Plus 900mm wide
- Stud to stud fixing at 600mm centres
- 50mm Knauf Acoustic 'C' Studs at 900mm centres

Doorway, 0–30kg door jamb
Detail 4

- 52mm Knauf 'U' Channel head track secured to structural soffit
- Softwood timber ground
- Knauf Wafer Head Screws at 150mm centres
- 52mm Knauf 'U' Channel cut and bent and fixed to door jamb stud with Knauf Wafer Head Screws at 150mm centres to meet jamb stud section
- 50mm Knauf Acoustic 'C' Studs, full height each side of door opening
- 52mm Knauf 'U' Channel secured to structural slab using suitable fixings at 600mm centres. Snipped and bent up to form return up jamb stud (minimum 300mm)
- 150mm

Folding
Detail 5

Forming door head where studs either side of door opening have a timber ground fitted.

1
Bend up
Bend up
Bend down 180°
Bend down 180°

2

3

Knauf Silent Spacesaver

Knauf Silent Spacesaver gives you the best of both worlds – high acoustic performance and narrow width. The Knauf Silent Spacesaver system is quick to install, lightweight and maximises space within buildings

Head Track

Knauf 'U' Channel secured to soffit forms head plate.

Knauf Deep Flange 'U' Channel secured to soffit forms a deflection head.

Stud

Knauf 'I' Studs, with the Staggered Stud Clip simply twist and snap in to head and floor tracks.

Knauf 'I' Stud enables the staggered configuration.

Knauf Staggered Stud Clip.

Knauf Soundshield Plus

High performance Knauf Soundshield Plus plasterboard reduces sound transmission through the partition.

Jointing

Use Knauf Joint Filler and Knauf Joint Cement Easy Sand to create strong, high-quality joints.

Floor Track

Knauf 'U' Channel secured to floor.

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Generate specifications at **www.knauf.co.uk**

48 Silent Spacesaver

Silent Spacesaver Partitions

Knauf Silent Spacesaver is ideal in areas where floorspace is at a premium and there is a requirement for a partition to provide a high level of sound reduction.

Key Features

- Low overall width
- High acoustic performance
- High fire resistance

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Insulation

Knauf Earthwool Acoustic Roll as specified.

Other Components

Knauf Movement Control Joint is an aluminium 'V' section used to bridge gaps left for expansion and contraction.

Knauf Sealant seals gaps, minimises airborne sound transmission.

Knauf Fixing Channel/Knauf Flat Fixing Plate provides fixing for horizontal joints or support for fixtures.

Knauf Sealant applicator to suit 0.9ltr cartridges of Knauf Sealant.

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Knauf Silent Spacesaver

Fast track to your optimum solution

1 Choose your sector

🏠 Residential 🏢 Commercial

➕ Healthcare

2 Find your performance levels

- **Sound**
- **Dimensions**
- **Fire**
- **Impact Duty**

3 Find your solution

Please note – you can find our full range of Silent Spacesaver Solutions in the Appendix on page 321.

Looking for our full Knauf Silent Spacesaver performance tables?

These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the appendices section on page 321 or contact our Knauf Technical team on 01795 416259.

Performance you can trust

All Knauf Silent Spacesaver Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Silent Spacesaver Partition is fully covered by our performance warranty.

🏠 Silent Spacesaver for Residential Projects

Silent Spacesaver SSR1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Soundshield Plus each side of 60mm (0.55mm) Knauf 'I' Studs staggered within 72mm Knauf 'U' Channel. 50mm Knauf Earthwool Acoustic Roll within cavity	57dB(Rw)	60mins	3500mm	122mm	Severe

Silent Spacesaver SSR2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 60mm (0.55mm) Knauf 'I' Studs staggered within 72mm Knauf 'U' Channel. 50mm Knauf Earthwool Acoustic Roll within cavity	60dB(Rw)	90mins†	3500mm	132mm	Severe

🏢 Silent Spacesaver for Commercial Projects

Silent Spacesaver SSC1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Soundshield Plus each side of 60mm (0.7mm) Knauf 'I' Studs staggered within 72mm Knauf 'U' Channel. 50mm Knauf Earthwool Acoustic Roll within cavity	57dB(Rw)	60mins	3800mm	122mm	Severe

Silent Spacesaver SSC2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 60mm (0.7mm) Knauf 'I' Studs staggered within 72mm Knauf 'U' Channel. 50mm Knauf Earthwool Acoustic Roll within cavity	60dB(Rw)	90mins†	3800mm	132mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.
† If 120 mins fire resistance is required, 2 layers of 15mm Fire Panel/Impact Panel should be used. For adjustments in acoustic performance please contact Knauf Technical Services.

🏢 Silent Spacesaver for Commercial Projects (continued)

Silent Spacesaver SSC3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Soundshield Plus each side of 92mm (0.9mm) Knauf 'I' Studs staggered within 148mm Knauf 'U' Channel. 25mm Knauf Earthwool Acoustic Roll within cavity	61dB(Rw)	60mins	5700mm	198mm	Severe

Silent Spacesaver SSC4/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 92mm (0.9mm) Knauf 'I' Studs staggered within 148mm Knauf 'U' Channel. 25mm Knauf Earthwool Acoustic Roll within cavity	62dB(Rw)	90mins†	5700mm	208mm	Severe

➕ Silent Spacesaver for Healthcare Projects

Silent Spacesaver SSH1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 60mm (0.7mm) Knauf 'I' Studs staggered within 72mm Knauf 'U' Channel. 50mm Knauf Earthwool Acoustic Roll within cavity	60dB(Rw)	90mins†	3800mm	132mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.
† If 120 mins fire resistance is required, 2 layers of 15mm Fire Panel/Impact Panel should be used. For adjustments in acoustic performance please contact Knauf Technical Services.

Knauf Silent Spacesaver

Installation Procedures

Knauf Silent Spacesaver partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Silent Spacesaver partitions must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1,2

Knauf 'U' Channels should be used for the head and base of the partition and to form any abutments. Bed the Knauf 'U' Channels on two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs or suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

Partitions should always run full height to the structural soffit where possible.

Vertical Studs 3,4

Knauf 'I' Studs together with the Knauf Staggered Stud Clips should be positioned within the 'U' Channel at 300mm centres and arranged to achieve a stagger from within the Knauf 'U' Channel to coincide with the abutments of the boards, which will be fixed later. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw-fixed.

Knauf 'I' Studs should be trimmed to within 5mm of the slab to soffit height.

Insulation 5

Once the studs have been located in the Knauf 'U' Channel and one side has been boarded, the insulation can be fitted either between the studs or wound through the studs depending on thickness. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or horizontally between different rolls. See detail 07 on page 57 for alternative insulation installation options.

Boarding 6

All boards should be offered up to the frame with the face of the board outwards. The inner layer of boards should be offered up to the frame and fixed with Knauf Self Drilling or Jackpoint Self Drilling Screws (ensuring 10mm penetration into the stud) at 300mm centres and reduced to 200mm centres at external corners. Boarding should commence at one end fixed vertically and across the partition. The boards should be trimmed to fit accurately to abutments and the head and base, and should be tightly butted together over the centre of the stud faces. The outer layer of boards should be staggered and screw-fixed to the frame vertically with Knauf Self Drilling or Jackpoint Self Drilling Screws.
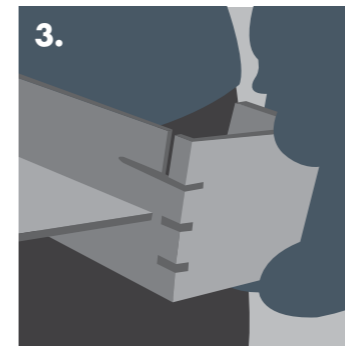
Knauf Performance Plus is used for the outer layer in areas of high humidity, such as bathroom and kitchen areas.
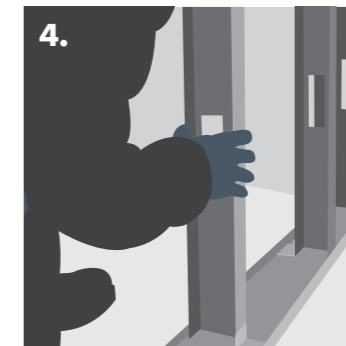

1. Applying two continuous beads of Knauf Sealant to perimeter framing.

2. Fixing Knauf 'U' Channel to form the partition frame.

3. A Knauf Staggered Stud Clip is fixed to the Knauf 'I' Stud.

4. Twisting Knauf 'I' Studs into position.

5. Inserting Knauf insulation quilt between the Knauf 'C' or 'I' Studs.

6. Fixing Knauf Soundshield Plus to the frame.

7. Taping and jointing for a seamless finish.
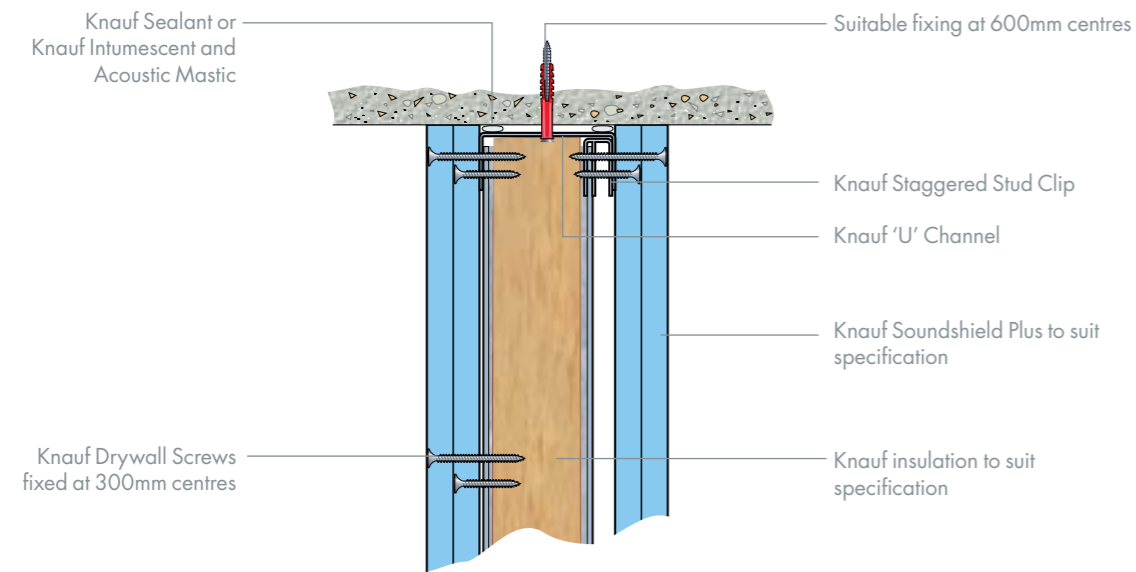
8. Finishing using Knauf plaster.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
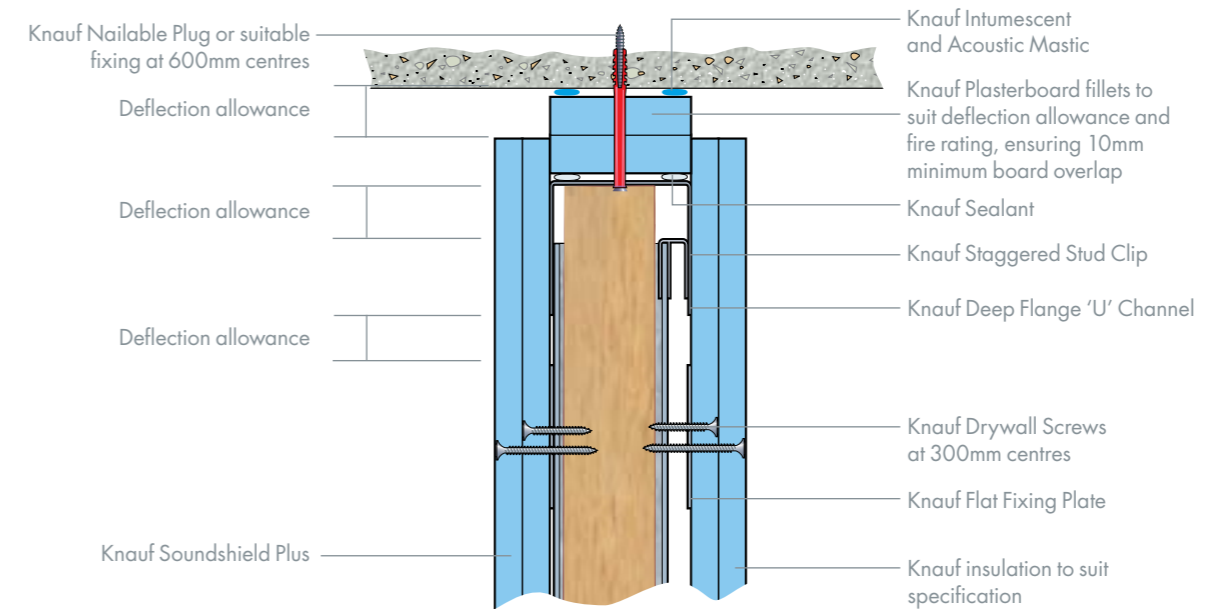
Knauf Silent Spacesaver

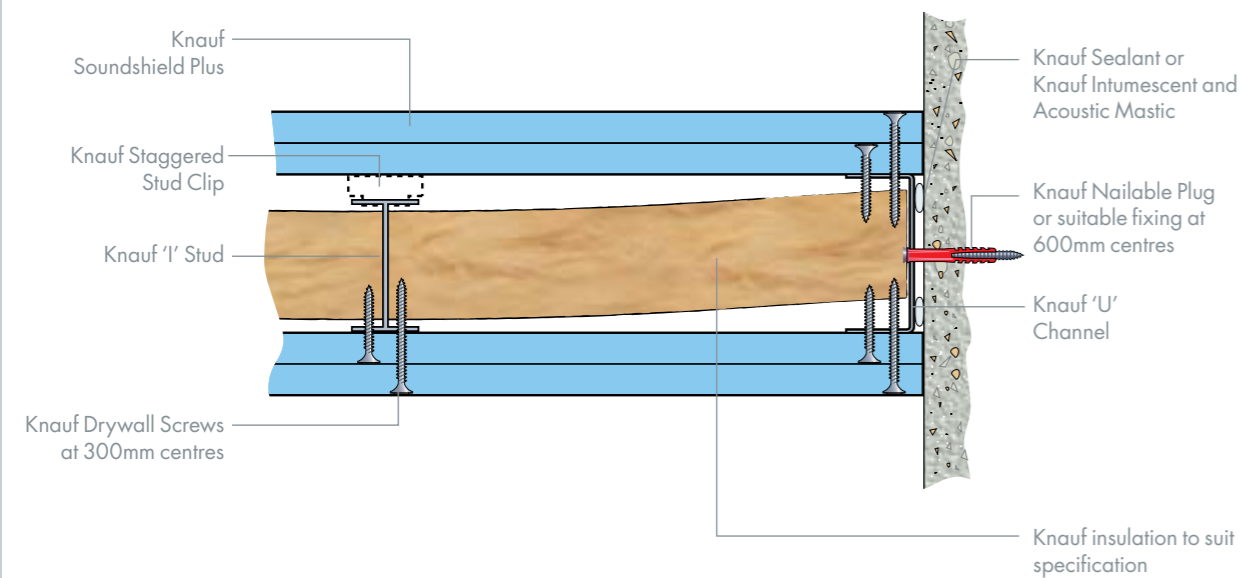## Head detail   **Detail 1**

Knauf Sealant or Knauf Intumescent and Acoustic Mastic

Suitable fixing at 600mm centres

Knauf Staggered Stud Clip

Knauf 'U' Channel

Knauf Soundshield Plus to suit specification

Knauf Drywall Screws fixed at 300mm centres

Knauf insulation to suit specification

Abutment   **Detail 2**

Knauf Soundshield Plus

Knauf Staggered Stud Clip

Knauf 'I' Stud

Knauf Drywall Screws at 300mm centres

Knauf Sealant or Knauf Intumescent and Acoustic Mastic

Knauf Nailable Plug or suitable fixing at 600mm centres

Knauf 'U' Channel

Knauf insulation to suit specification

Deflection head, up to 60 minutes fire resistance   **Detail 3**

Knauf Nailable Plug or suitable fixing at 600mm centres

Deflection allowance

Deflection allowance

Deflection allowance

Knauf Soundshield Plus

Knauf Intumescent and Acoustic Mastic

Knauf Plasterboard fillets to suit deflection allowance and fire rating, ensuring 10mm minimum board overlap

Knauf Sealant

Knauf Staggered Stud Clip

Knauf Deep Flange 'U' Channel

Knauf Drywall Screws at 300mm centres

Knauf Flat Fixing Plate

Knauf insulation to suit specification

T-junction   **Detail 4**

Knauf Sealant

Knauf 'C' Stud

Knauf Drywall Screws at 300mm centres

Knauf insulation to suit specification

Knauf 'I' Stud

Knauf Staggered Stud Clip

Knauf Soundshield Plus

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Silent Spacesaver

90° corner — Detail 5
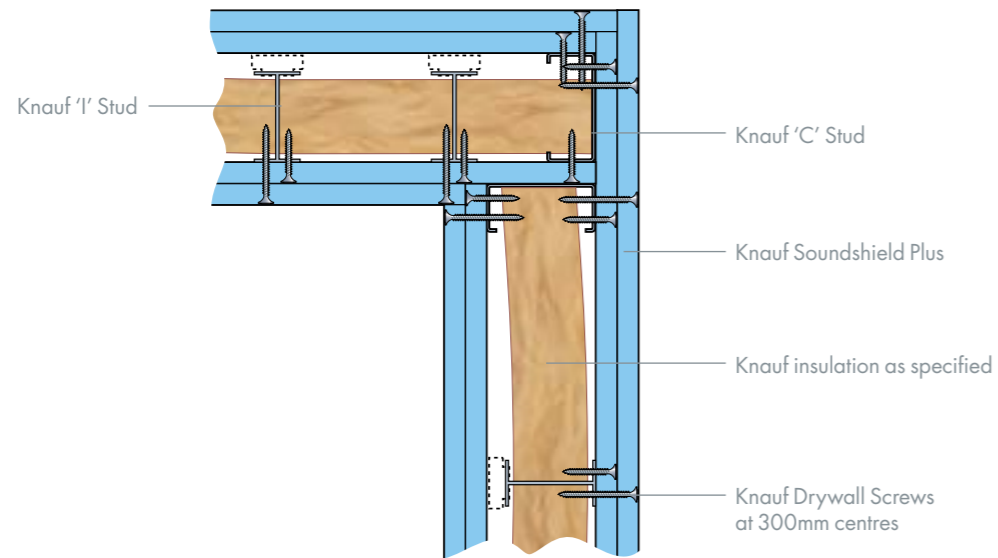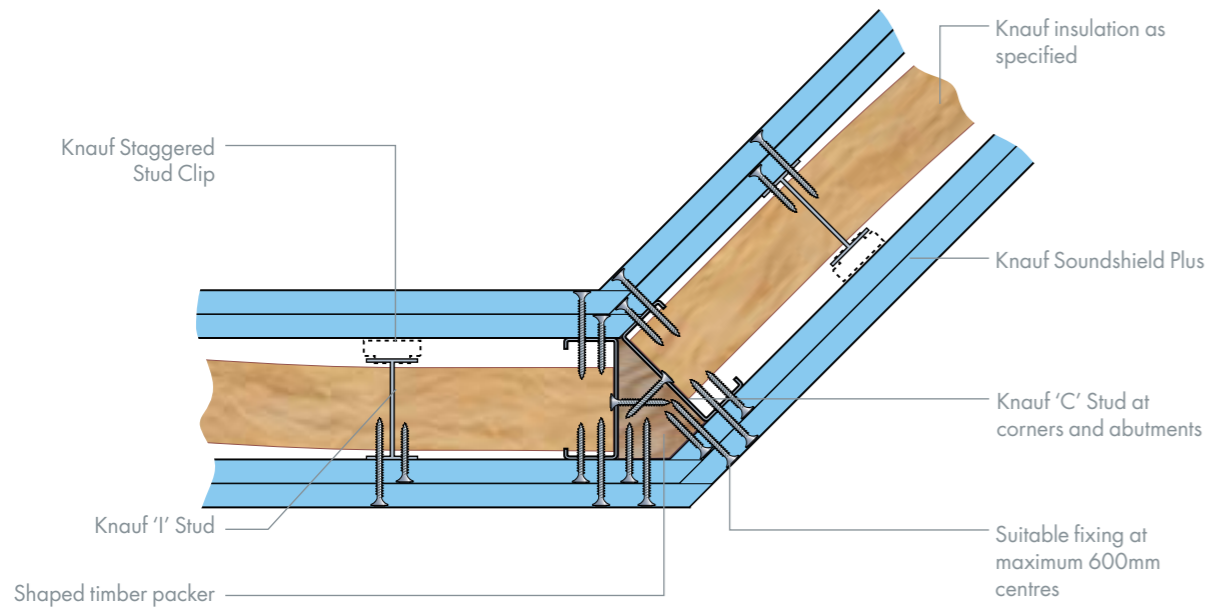
Knauf 'I' Stud

Knauf 'C' Stud

Knauf Soundshield Plus

Knauf insulation as specified

Knauf Drywall Screws at 300mm centres

Splayed corner — Detail 6

Knauf insulation as specified

Knauf Staggered Stud Clip

Knauf Soundshield Plus

Knauf 'C' Stud at corners and abutments

Knauf 'I' Stud

Suitable fixing at maximum 600mm centres
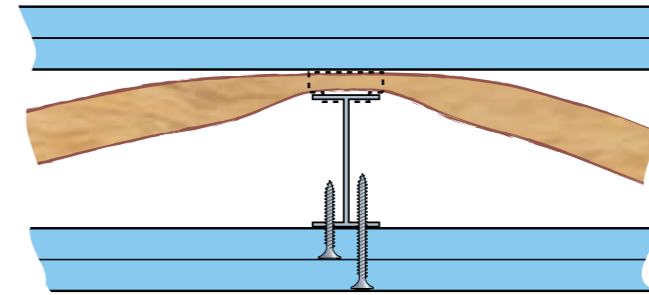
Shaped timber packer

Where you see these icons in a detail, that detail is particularly relevant to that sector.
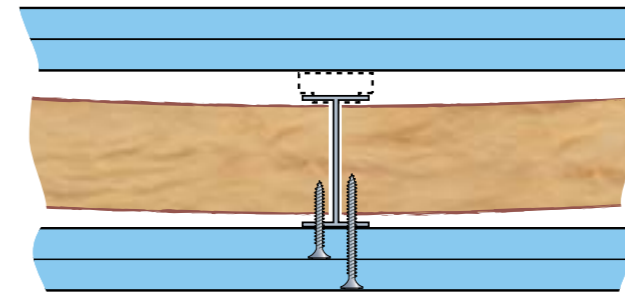
Generate specifications at www.knauf.co.uk

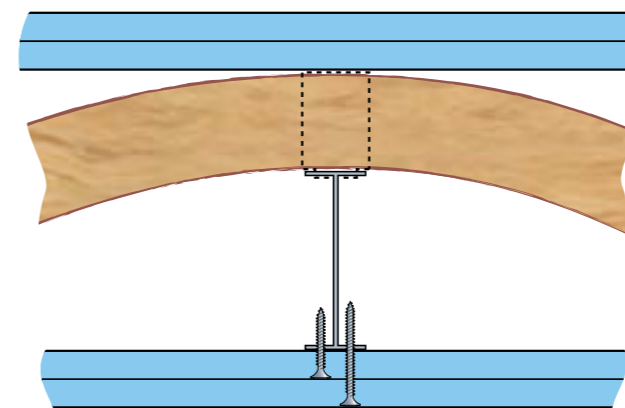## Alternative insulation installation options — Detail 7

25mm Knauf Earthwool Acoustic Roll, 60mm Knauf 'I' Studs within 72mm Knauf 'U' Channel

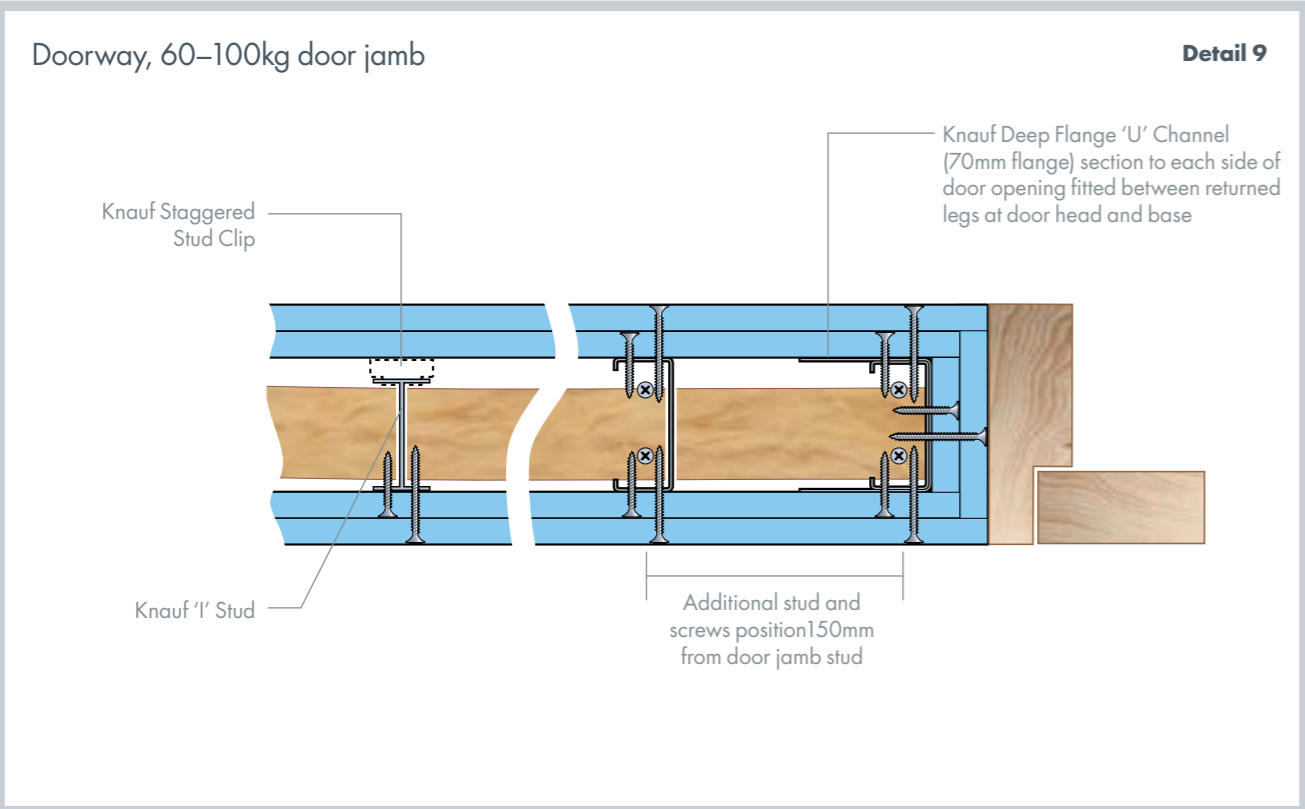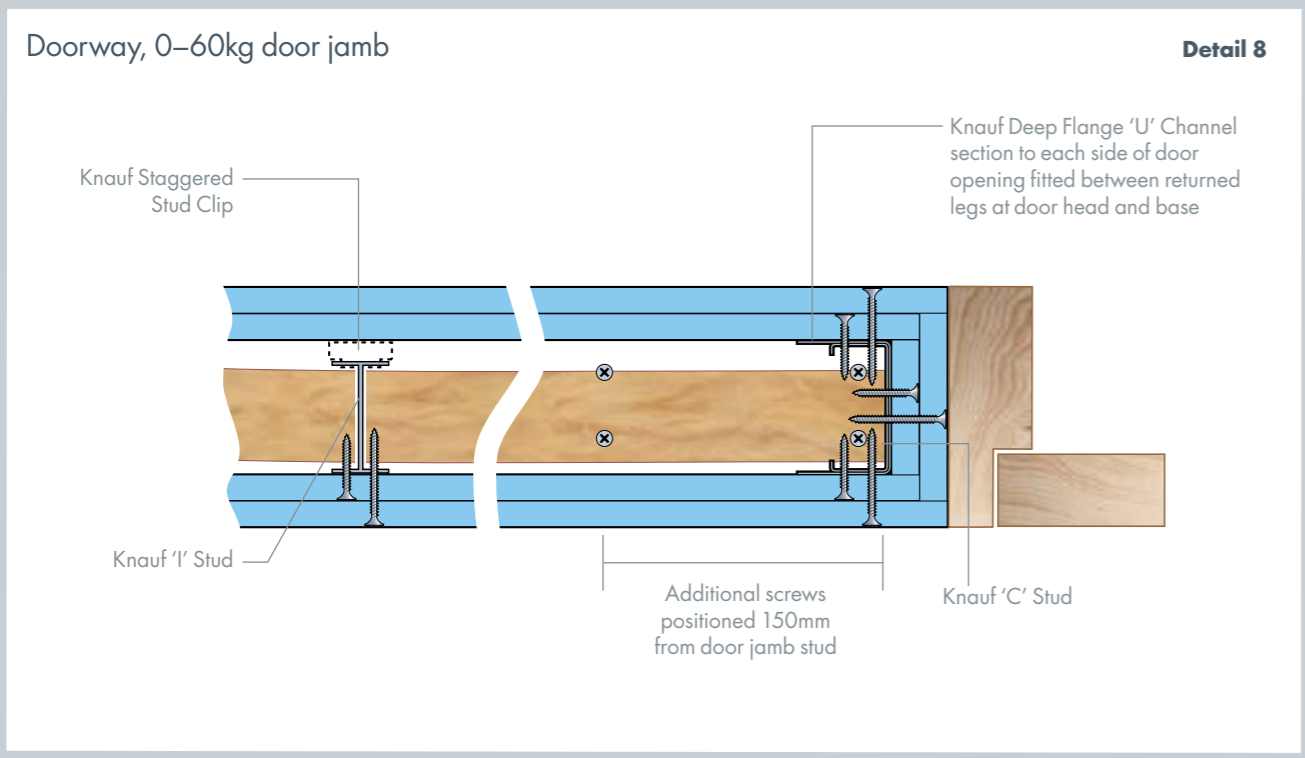50mm Knauf Earthwool Acoustic Roll, 60mm Knauf 'I' Studs within 72mm Knauf 'U' Channel:

50mm Knauf Earthwool Acoustic Roll, 92mm Knauf 'I' Studs within 148mm Knauf 'U' Channel:

Generate specifications at www.knauf.co.uk

Knauf Silent Spacesaver

Doorway, 0–60kg door jamb

Knauf Staggered Stud Clip

Knauf Deep Flange 'U' Channel section to each side of door opening fitted between returned legs at door head and base

Knauf 'I' Stud

Additional screws positioned 150mm from door jamb stud

Knauf 'C' Stud

Doorway, 60–100kg door jamb

Knauf Staggered Stud Clip

Knauf Deep Flange 'U' Channel (70mm flange) section to each side of door opening fitted between returned legs at door head and base

Knauf 'I' Stud

Additional stud and screws position150mm from door jamb stud

Knauf Isolator

The Knauf Isolator system's twin frames provide separation which, combined with high-performance Knauf Plasterboards and Knauf insulation, realise exceptional acoustic sound reduction of up to 76dB(Rw).

Isolator Partitions

Knauf Isolator can be used in the residential or commerical sectors to provide the best possible sound isolation and privacy while enjoying all the benefits of dry wall construction.

Key Features

- High acoustic properties
- Vertical service runs are easily accommodated within the metal framework
- Suitable for impact duty requirements up to Severe Duty

Head Track

Knauf 'U' Channel secured to soffit forms head plate.

Knauf Deep Flange 'U' Channel for use when constructing a deflection head detail.

Stud

Knauf 'C' Studs simply twist and snap in to head and floor tracks.

Angle Sections

Knauf Angle Sections are used to retain mineral wool packing in deflection head details.

Knauf Plasterboard

The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.
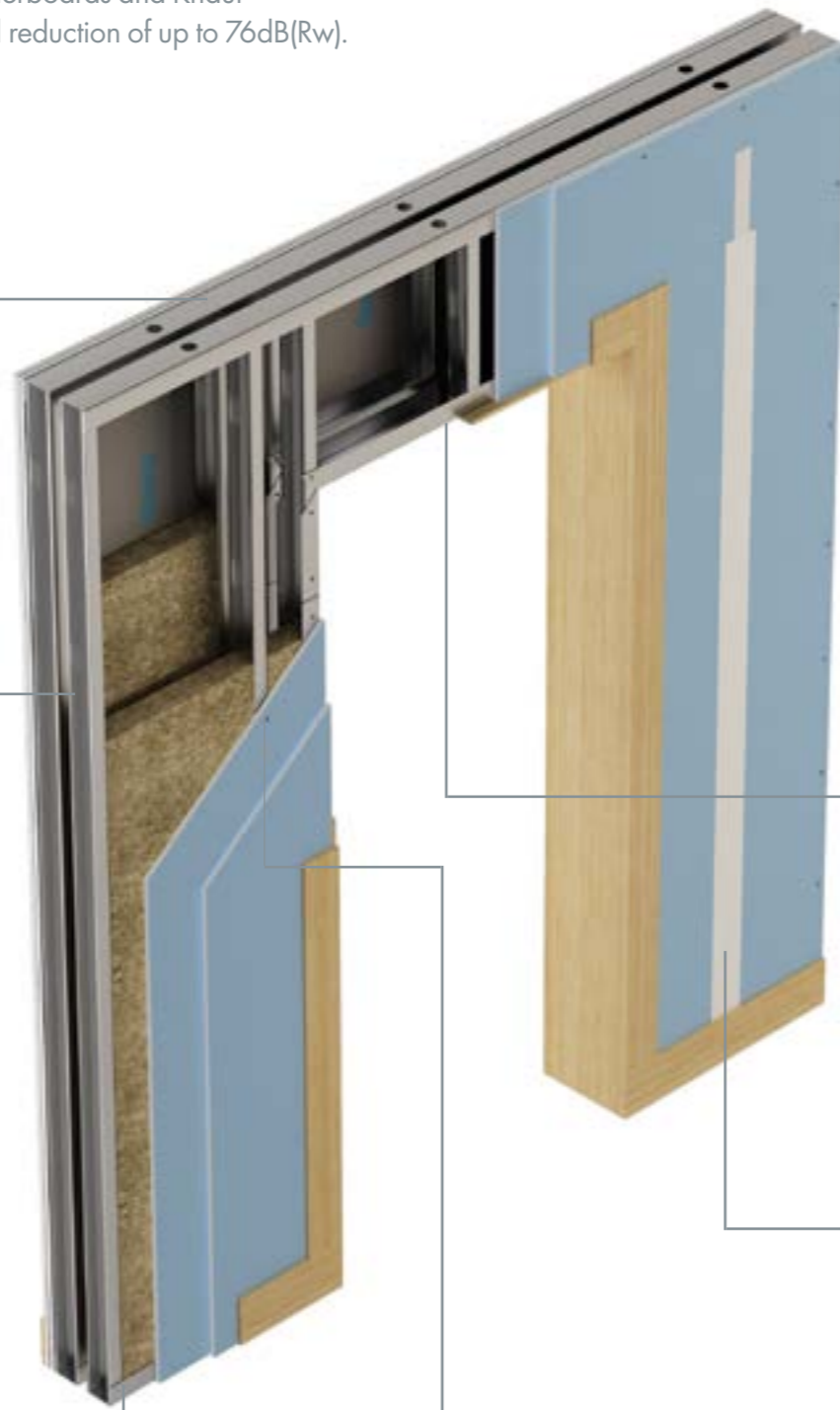
Floor Track

Knauf 'U' Channel secured to floor.

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Door Head

Knauf Deep Flange 'U' Channel snipped, bent, returned and fixed to vertical stud.

Jointing

Knauf Joint Cement Lite Easy Sand provides a superb finish with the minimum of effort.

Other Components

Knauf Movement Control Joint is an aluminium 'V' section used to bridge gaps left for expansion and contraction.

Knauf Sealant seals gaps, minimises airborne sound transmission.

Knauf Fixing Channel/Knauf Flat Plate provides fixing for horizontal joints or support for fixtures.

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Our range of Partition Solutions includes:

Generate specifications at www.knauf.co.uk

Knauf Isolator

Fast track to your optimum solution

1 Choose your sector

2 Find your performance levels

3 Find your solution

🏠 Residential   🏢 Commercial

- **Sound**
- **Dimensions**
- **Fire**
- **Impact Duty**

Please note – you can find our full range of Isolator Solutions in the Appendix on page 320.

Looking for our full Knauf Isolator performance tables?

These are Optimised Solutions designed to provide the most effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please see our performance tables in the appendices section on page 320 or contact our Knauf Technical team on 01795 416259.

Performance you can trust
All Knauf Isolator Partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Isolator Partition is fully covered by our performance warranty.

🏠 Isolator for Residential Projects

Isolator ILR1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 50mm Knauf 'C' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity	63dB(Rw)	90mins	2600mm	170mm	Severe

Isolator ILR2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 50mm Knauf 'I' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity	63dB(Rw)	90mins	3100mm	170mm	Severe

Isolator ILR3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity	65dB(Rw)	90mins	3000mm	210mm	Severe

Isolator ILR4/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Soundshield Plus each side of 70mm Knauf 'C' Studs at 600mm centres with 50mm of Knauf Universal Slab RS33 insulation within cavity	45dB $(D_{nT,w+Ctr})^\dagger$	60mins	3000mm	250mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

† Acoustic performance taken from compliance to Robust Detail E-WS-1.

🏢 Isolator for Commercial Projects

Isolator ILC1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 70mm Knauf 'I' Studs at 600mm centres with 2 layers of 25mm Knauf Earthwool Acoustic Roll within cavity	65dB(Rw)	90mins	4300mm	210mm	Severe

Isolator ILC2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity	69dB(Rw)	90mins	5700mm	300mm	Severe

Isolator ILC3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
3 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity	75dB(Rw)	120mins	5700mm	550mm	Severe

Isolator ILC4/13	Sound	Fire*	Max Height**	Width	Impact Duty***
3 layers of 15mm Knauf Soundshield Plus each side of 92mm Knauf 'I' Studs at 600mm centres with 2 layers of 100mm Knauf Mineral Wool (min. 10kg/m³) within cavity	76dB(Rw)	120mins	5700mm	550mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Knauf Isolator

Installation Procedures
Knauf Isolator partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General
Knauf Isolator partitions must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1,2
Knauf 'U' Channels should be used for the head and base of the partition. Knauf 'C' Studs should be used to form any abutments and to frame openings. Bed each section on two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs or suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together. Replace Knauf 'U' Channel with Knauf Deep Flange 'U' Channel when forming a deflection head.

Partitions should always run full height up to the structural soffit.

Vertical Studs 3
Studs should be positioned within the channels to coincide with the abutments of the boards, which will be fixed later. The centres (either 300, 400 or 600mm) depend on the performance requirements. The studs of the separate frames may require bracing using Knauf Fixing Channel, and acoustic bracing (by others), at maximum 1500mm centres, depending on the height of the partition – please check with Knauf Technical Services.

Knauf 'C' Studs should be trimmed to within 5mm of the slab to soffit height. For deflection heads only: studs should be cut short to allow for the required clearance within Knauf Deep Flange 'U' Channel. This should be no more than half the flange length of the Deep Flange 'U' Channel.

Knauf 'C' Studs can be extended by forming an overlap, boxing them at that point and securing them with Knauf Wafer Head Jackpoint Screws. The overlap must be at least 600mm.

Insulation 4
Once the studs have been located in the Knauf 'U' Channels and one side has been boarded, the specified Knauf insulation can be inserted between the studs horizontally. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or horizontally between different rolls.

Support for Horizontal Joints in Facings
To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs, secured with 2 Knauf Wafer Head Jackpoint Screws per stud to both faces.

Doorways
The head is formed with Knauf Deep Flange 'U' Channel, bent back and screw-fixed with Knauf Wafer Head Jackpoint Screws to the studs.

Boarding 5,6,7,8
All boards should be offered up to the frame with the face of the board outwards, and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners.

Boarding should commence at one end and work across the partition. At head, foot and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by 600mm. Tape and joint for a seamless finish, and finish using Knauf Plaster.

1. Applying continuous beads of Knauf Sealant to perimeter framing.

2. After fixing the head track, the floor track should be positioned by using a vertical stud and a spirit level.

3. Bracing Knauf 'C' Studs with Knauf Fixing Channel at maximum 1500mm vertical centres (if required).

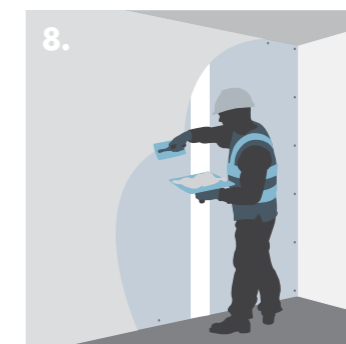**4.** Inserting Knauf insulation quilt between the Knauf 'C' or 'I' Studs.

5. Fixing Knauf Plasterboard to the Knauf 'C' or 'I' Studs.

6. Stagger the boards, to ensure all joints overlap.

7. Taping and jointing for a seamless finish.
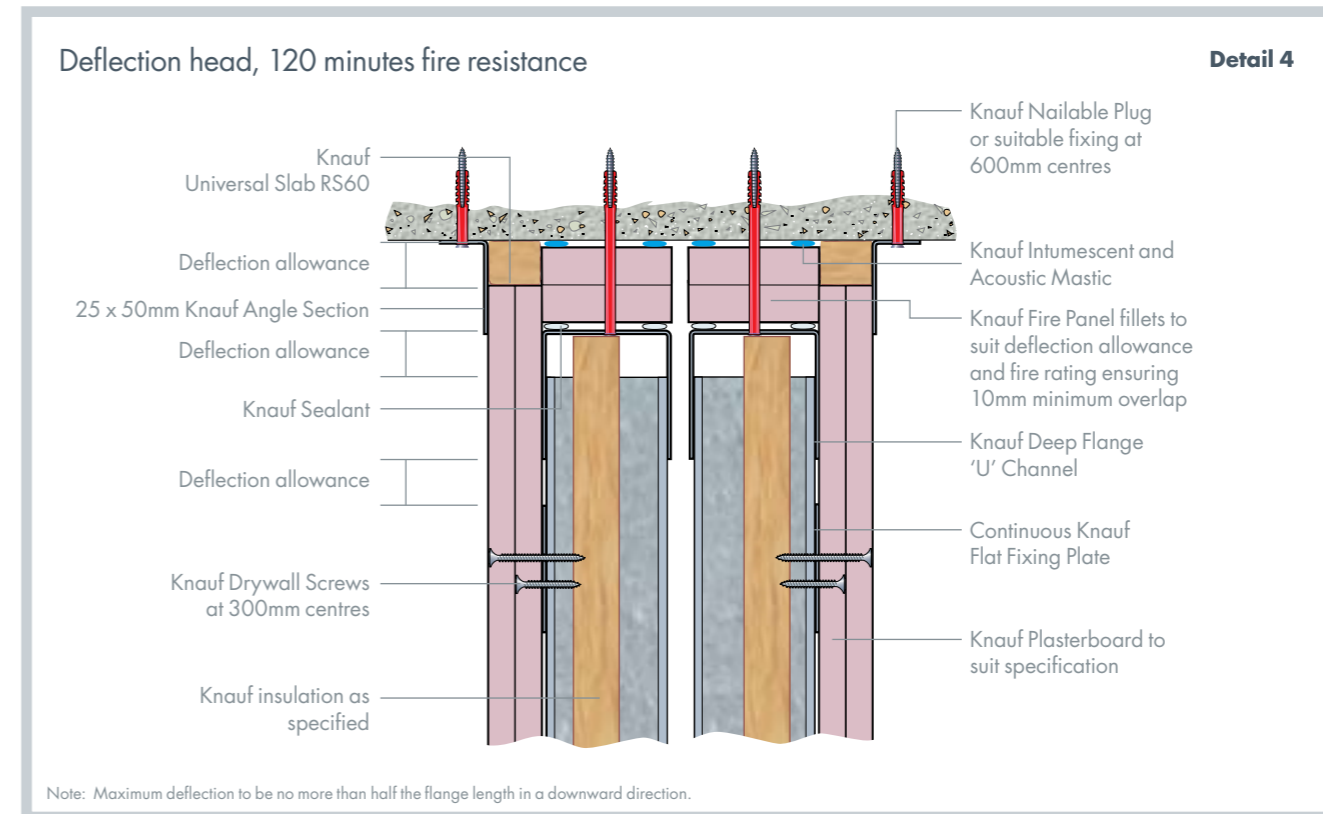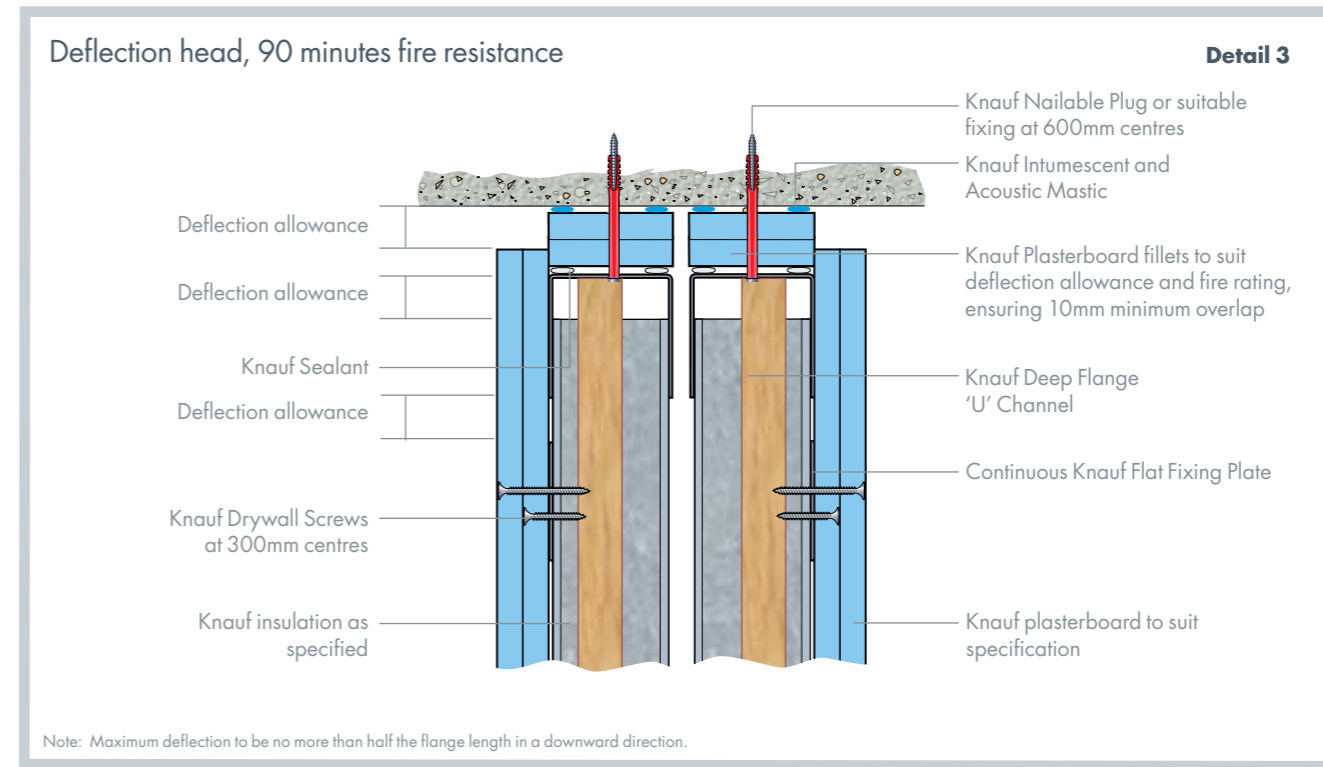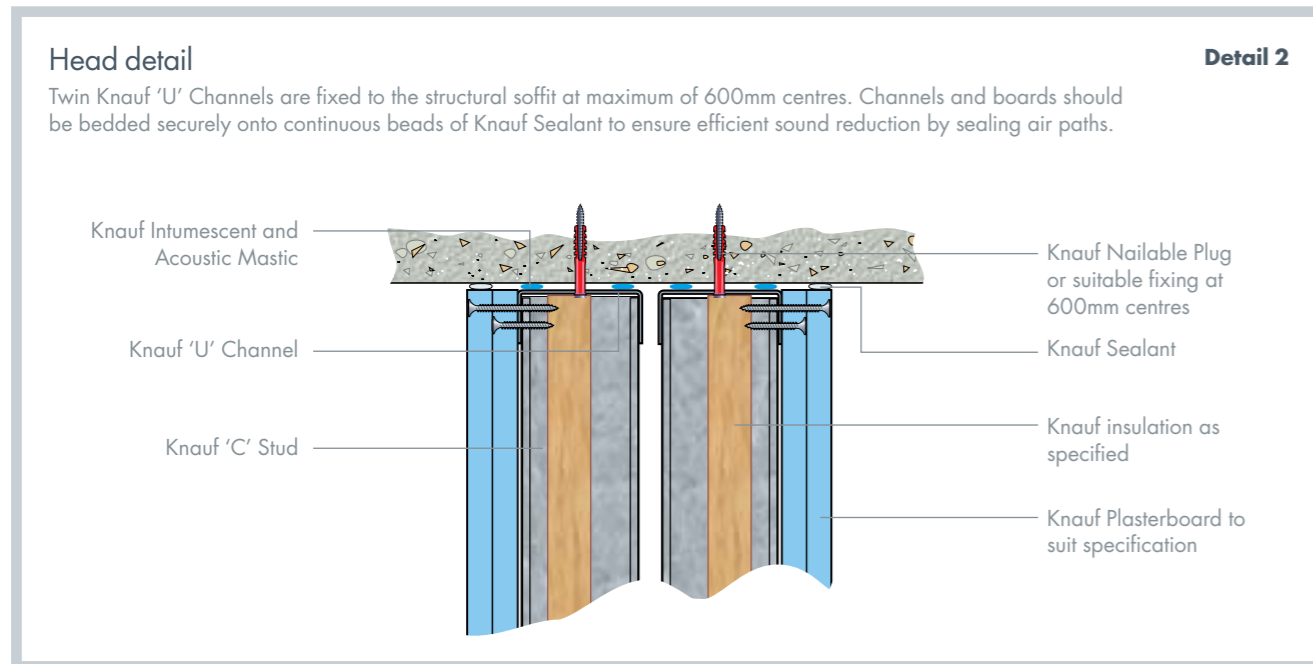

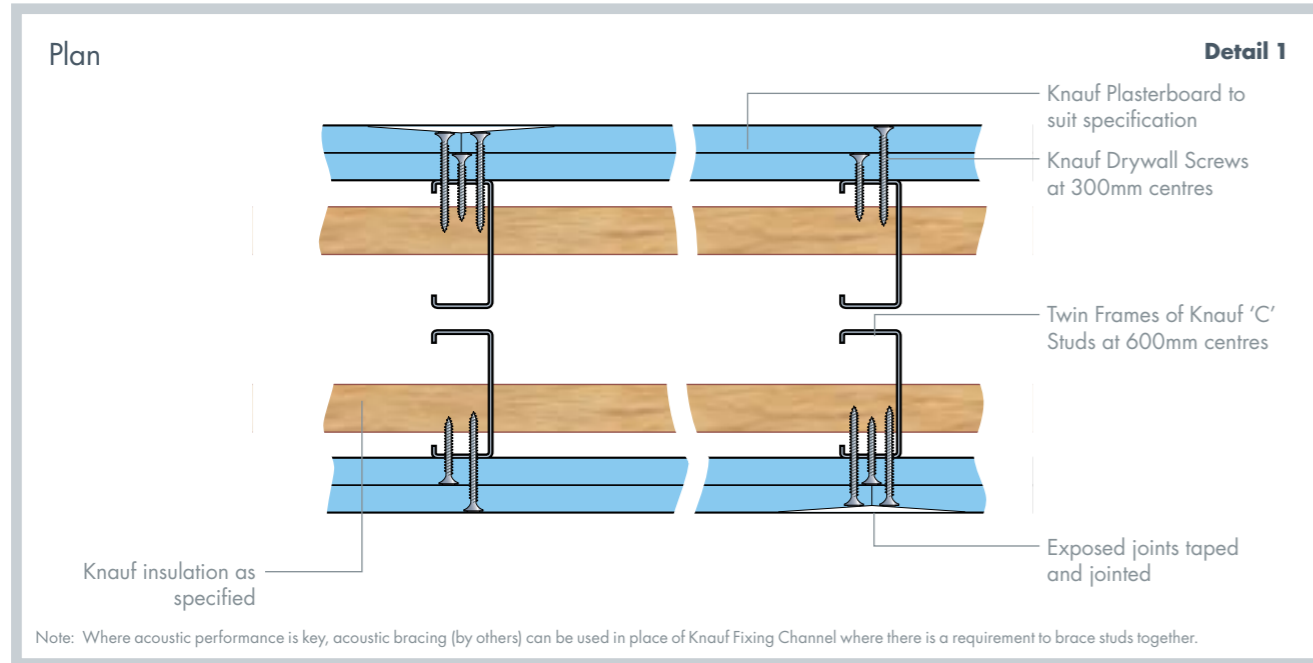**8.** Finishing using Knauf plaster.

Knauf Training Courses
We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

Knauf Isolator

Application Details

These details represent some of the most common design situations relevant to the Knauf Isolator partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
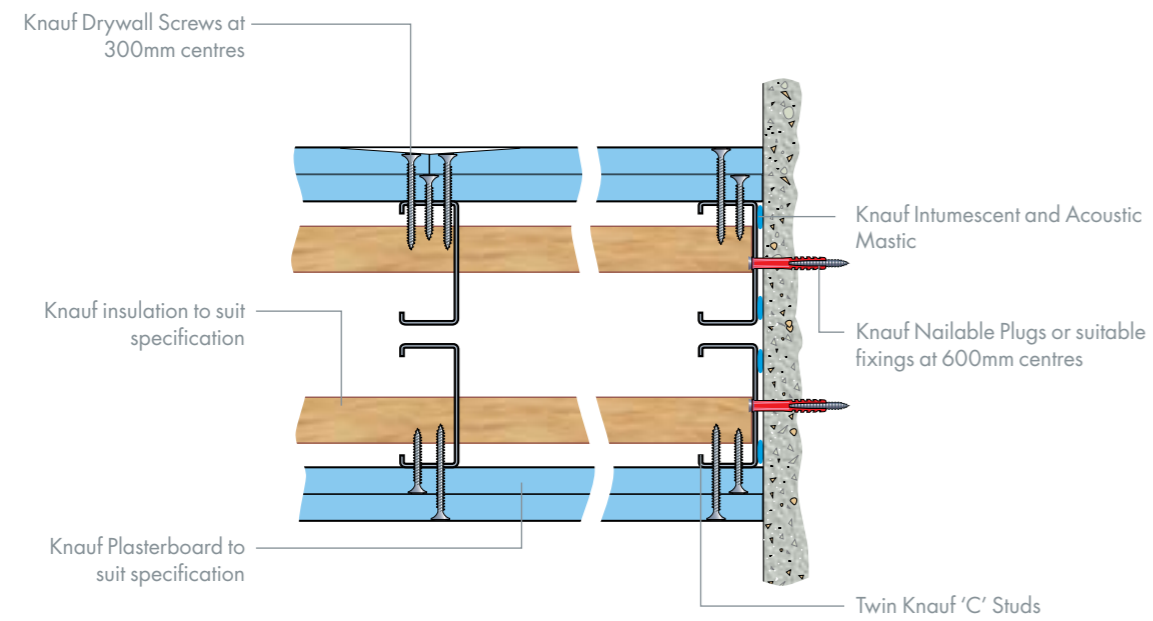
Plan

Detail 1

- Knauf Plasterboard to suit specification
- Knauf Drywall Screws at 300mm centres
- Twin Frames of Knauf 'C' Studs at 600mm centres
- Exposed joints taped and jointed
- Knauf insulation as specified

Note: Where acoustic performance is key, acoustic bracing (by others) can be used in place of Knauf Fixing Channel where there is a requirement to brace studs together.

Head detail

Detail 2

Twin Knauf 'U' Channels are fixed to the structural soffit at maximum of 600mm centres. Channels and boards should be bedded securely onto continuous beads of Knauf Sealant to ensure efficient sound reduction by sealing air paths.

- Knauf Intumescent and Acoustic Mastic
- Knauf 'U' Channel
- Knauf 'C' Stud
- Knauf Nailable Plug or suitable fixing at 600mm centres
- Knauf Sealant
- Knauf insulation as specified
- Knauf Plasterboard to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Deflection head, 90 minutes fire resistance

Detail 3

- Knauf Nailable Plug or suitable fixing at 600mm centres
- Knauf Intumescent and Acoustic Mastic
- Knauf Plasterboard fillets to suit deflection allowance and fire rating, ensuring 10mm minimum overlap
- Knauf Deep Flange 'U' Channel
- Continuous Knauf Flat Fixing Plate
- Knauf plasterboard to suit specification
- Deflection allowance
- Deflection allowance
- Knauf Sealant
- Deflection allowance
- Knauf Drywall Screws at 300mm centres
- Knauf insulation as specified

Note: Maximum deflection to be no more than half the flange length in a downward direction.

Deflection head, 120 minutes fire resistance

Detail 4

- Knauf Universal Slab RS60
- Deflection allowance
- 25 x 50mm Knauf Angle Section
- Deflection allowance
- Knauf Sealant
- Deflection allowance
- Knauf Drywall Screws at 300mm centres
- Knauf insulation as specified
- Knauf Nailable Plug or suitable fixing at 600mm centres
- Knauf Intumescent and Acoustic Mastic
- Knauf Fire Panel fillets to suit deflection allowance and fire rating ensuring 10mm minimum overlap
- Knauf Deep Flange 'U' Channel
- Continuous Knauf Flat Fixing Plate
- Knauf Plasterboard to suit specification

Note: Maximum deflection to be no more than half the flange length in a downward direction.

Knauf Isolator

Abutment
Detail 5

Knauf Drywall Screws at 300mm centres

Knauf insulation to suit specification

Knauf Plasterboard to suit specification

Knauf Intumescent and Acoustic Mastic

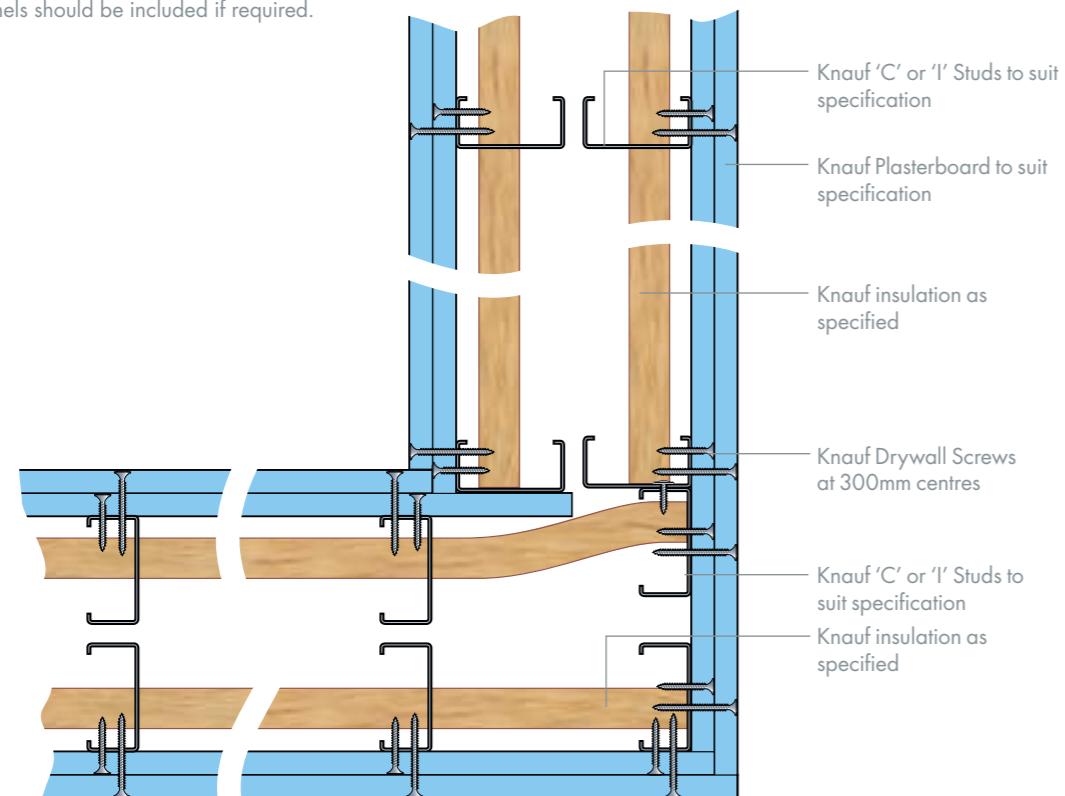Knauf Nailable Plugs or suitable fixings at 600mm centres

Twin Knauf 'C' Studs

90° corner
Detail 6

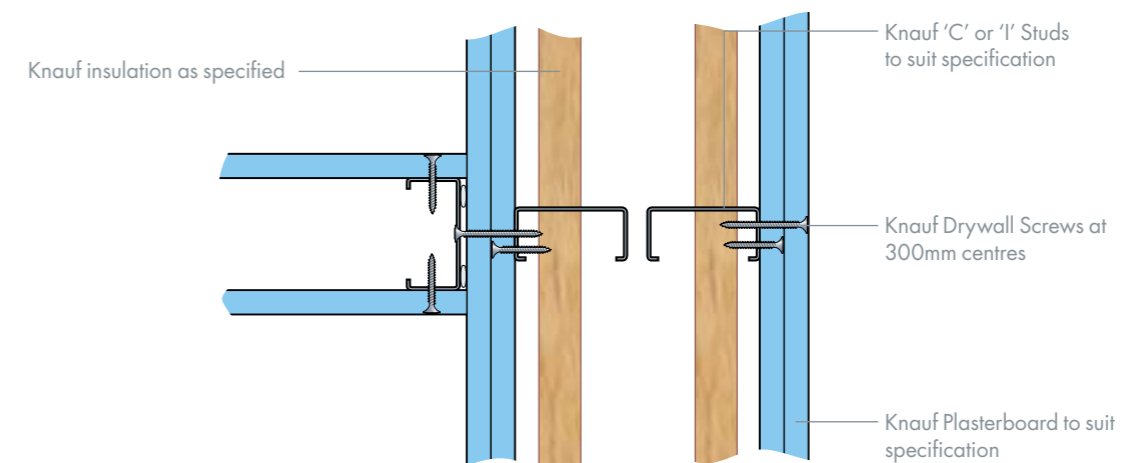Fixings at the junctions should be made from stud to stud. Extra studs or channels should be included if required.
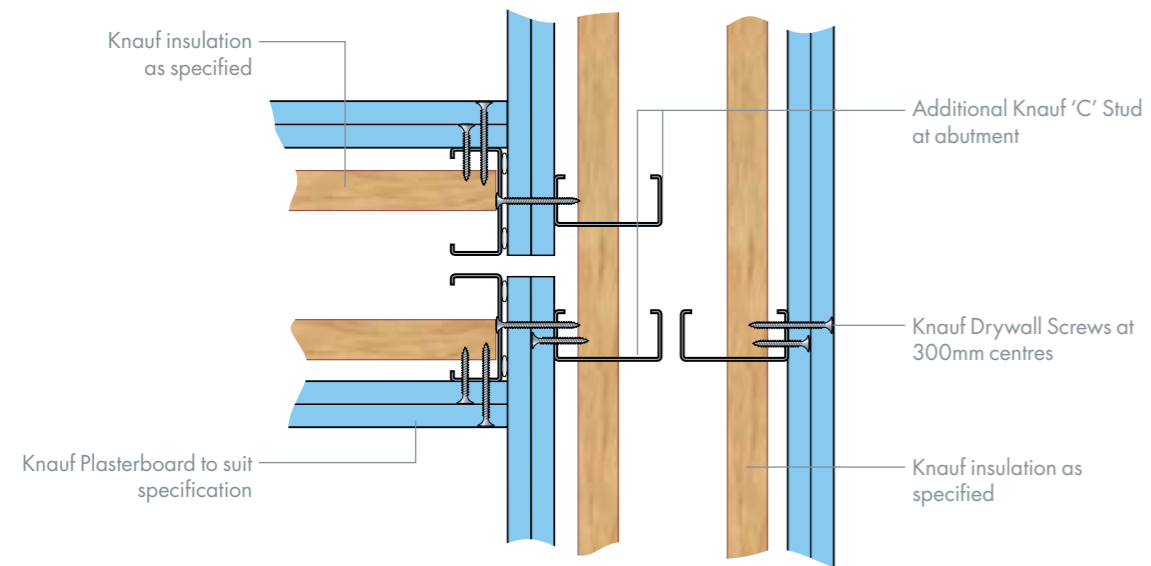
Knauf 'C' or 'I' Studs to suit specification

Knauf Plasterboard to suit specification

Knauf insulation as specified

Knauf Drywall Screws at 300mm centres

Knauf 'C' or 'I' Studs to suit specification

Knauf insulation as specified

Splayed corner
Detail 7

Knauf Drywall Screws at 300mm centres

Knauf Plasterboard to suit specification

Shaped timber inserts to suit

Twin Knauf 'C' Studs

Knauf insulation as specified

Suitable fixings at maximum 600mm centres

T-junction
Detail 8

Fixings at the junction should be made from stud to stud. Extra studs should be included if required.

Knauf insulation as specified

Knauf 'C' or 'I' Studs to suit specification

Knauf Drywall Screws at 300mm centres

Knauf Plasterboard to suit specification

Knauf Isolator

T-junction   **Detail 9**

Knauf insulation as specified

Additional Knauf 'C' Stud at abutment

Knauf Drywall Screws at 300mm centres

Knauf Plasterboard to suit specification

Knauf insulation as specified

Doorway, 0–60kg door jamb   **Detail 10**

Knauf Deep Flange 'U' Channel section to each side of door opening fitted between returned legs at door head and base

Knauf 'C' Stud

Additional screws positioned 150mm from door jamb stud

Doorway, 60–100kg door jamb   **Detail 11**

Knauf Deep Flange 'U' Channel (70mm flange) section to each side of door opening fitted between returned legs at door head and base

Knauf 'C' or 'I' Stud

Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb. Remainder of Knauf 'U' Channel secured at 600mm centres

Additional stud position 150mm from door jamb stud

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Shaftwall

Knauf Shaftwall is our innovative system to form enclosures around service and lift shafts while working from one side. The unique Knauf 'C-T' Stud makes this possible with a minimum of components.

Head Track
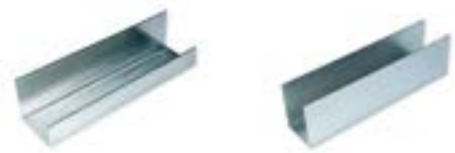
Knauf 'J' Channel secured to soffit forms head plate.

Knauf Deep Flange 'U' Channel for forming deflection heads.
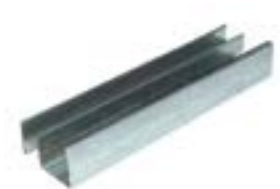
Stud

Knauf 'C-T' Studs. This unique section enables construction from one side with the minimum of components.

Plasterboard

Knauf Fire Panel
Knauf Core Board
Knauf Performance Plus
Knauf Impact Panel

Floor Track

Knauf 'J' Channel secured to floor.

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Generate specifications at **www.knauf.co.uk**

Shaftwall Partitions

Knauf Shaftwall is perfect for all situations where access from one side is restricted, giving a high fire performance while being simple to construct.

Key Features

- Quickly constructed from one side
- Up to 2 hours fire resistance
- Robust
- Proven in tall buildings across the UK
- Uses our unique and clever Knauf 'C-T' Stud

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Other Components

Knauf Movement Control Joint is an aluminium 'V' section used to bridge gaps left for expansion and contraction.

Knauf Sealant seals gaps, minimises airborne sound transmission.

Knauf Fixing Channel/Knauf Flat Fixing Plate provides fixing for horizontal joints or support for fixtures.

Knauf Core Board Channel used to provide fixing for horizontal Core Board joints.

Our range of Partition Solutions includes:

Performer	16
Easybuild	42
Silent Spacesaver	48
Isolator	60

Knauf Shaftwall

Fast track to your optimum solution

1 Choose your sector

🏠 Residential   🏢 Commercial

📚 Education   ➕ Healthcare

2 Find your performance levels

- **Sound**
- **Dimensions**
- **Fire**
- **Impact Duty**

3 Find your solution

Please note – you can find our full range of Shaftwall Solutions in the Appendix on page 321.

🏠 📚 ➕ 🏢 **Shaftwall solutions**

Shaftwall SW1/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	34dB(Rw)	60mins	4300mm	77mm	Severe

Shaftwall SW2/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	37dB(Rw)	90mins	4900mm	87mm	Severe

Shaftwall SW3/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	41dB(Rw)	120mins	5000mm	92mm	Severe

Shaftwall SW4/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, and 25mm Knauf Earthwool Acoustic Roll within cavity	41dB(Rw)	60mins	4300mm	77mm	Severe

Shaftwall SW5/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	45dB(Rw)	90mins	4900mm	87mm	Severe

Shaftwall SW6/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 60mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	46dB(Rw)	120mins	5000mm	92mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity only). The temperature of the exposed flange of the 'C-T' Stud may exceed the requirements of BS 476: Part 22: 1987 within the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Generate specifications at **www.knauf.co.uk**

## Knauf Shaftwall optimised solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project.

Knauf Technical Services: 01795 416259.

Performance you can trust

All Knauf Shaftwall partitions utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channel and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system.

Insisting on genuine Knauf components throughout will ensure your Knauf Shaftwall Partition is fully covered by our performance warranty.
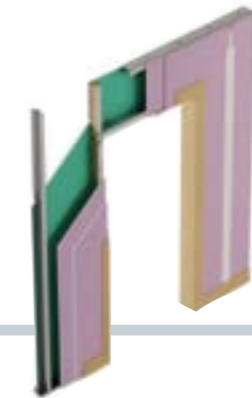
🏠 📚 ➕ 🏢 **Shaftwall solutions (continued)**

Shaftwall SW7/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	40dB(Rw)	60mins	6200mm	109mm	Severe

Shaftwall SW8/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	42dB(Rw)	90mins	6400mm	119mm	Severe

Shaftwall SW9/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	43dB(Rw)	120mins	6700mm	124mm	Severe

Shaftwall SW10/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	45dB(Rw)	60mins	6200mm	109mm	Severe

Shaftwall SW11/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	46dB(Rw)	90mins	6400mm	119mm	Severe

Shaftwall SW12/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 92mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	48dB(Rw)	120mins	6700mm	124mm	Severe

* Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity only). The temperature of the exposed flange of the 'C-T' Stud may exceed the requirements of BS 476: Part 22: 1987 within the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

** Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Generate specifications at **www.knauf.co.uk**

Knauf Shaftwall

Fast track to your optimum solution

1 Choose your sector

2 Find your performance levels

3 Find your solution

🏠 Residential   🏢 Commercial

➕ Healthcare   📚 Education

- **Sound**
- **Dimensions**
- **Fire**
- **Impact Duty**

Please note – you can find our full range of Shaftwall Solutions in the Appendix on page 321.

🏠 📚 ➕ 🏢 Shaftwall solutions (continued)

Shaftwall SW13/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	41dB(Rw)	60mins	7400mm	163mm	Severe

Shaftwall SW14/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	45dB(Rw)	90mins	7900mm	173mm	Severe

Shaftwall SW15/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs	45dB(Rw)	120mins	8000mm	178mm	Severe

Shaftwall SW16/13	Sound	Fire*	Max Height**	Width	Impact Duty***
1 layer of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	46dB(Rw)	60mins	7400mm	163mm	Severe

Shaftwall SW17/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 12.5mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	50dB(Rw)	90mins	7900mm	173mm	Severe

Shaftwall SW18/13	Sound	Fire*	Max Height**	Width	Impact Duty***
2 layers of 15mm Knauf Fire Panel attached to non-shaft side of 146mm Knauf 'C-T' Studs at 600mm centres, with 19mm Knauf Core Board secured between studs, with 25mm Knauf Earthwool Acoustic Roll within cavity	50dB(Rw)	120mins	8000mm	178mm	Severe

*   Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity only). The temperature of the exposed flange of the 'C-T' Stud may exceed the requirements of BS 476: Part 22: 1987 within the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

**   Maximum height calculated based on a limiting deflection of L/240 at 200Pa.

*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Generate specifications at **www.knauf.co.uk**

Knauf Shaftwall

Installation Procedures

Knauf Shaftwall partitions are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Shaftwall and Firefighting Shaftwall must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Perimeter Framing 1,2

Knauf 'J' Channels should be used for the head, base and any abutments. Bed each section onto two continuous beads of Knauf Intumescent and Acoustic Mastic and secure with suitable fixings at maximum 600mm centres and 50mm from ends of channels or studs. Separate channels forming the perimeter do not need to be joined, but should be tightly butted together.

Replace Knauf 'J' Channel with a Knauf Deep Flange 'U' Channel when forming a deflection head.

Vertical Studs

Knauf 'C-T' Studs should be positioned within the channels in sequence with Knauf Core Board, maintaining stud centres at maximum 600mm. In general, there is no requirement to secure the studs at this point as this will be achieved once the boards are screw fixed.

Knauf 'C-T' Studs should be trimmed to within 5mm of the slab to soffit height. For deflection heads only: studs should be cut short to a maximum of half the flange length of the Knauf Deep Flange 'U' Channel. Whenever possible, full height Knauf 'C-T' Studs should be used. If splicing is necessary, then use Knauf 'C' Studs to extend 600mm above and below the Knauf 'C-T' joint, fixed through with a minimum of 6 Knauf Wafer Head Jackpoint Screws. See detail 11 on page 85.

Insulation (if required)

Once the 'C-T' studs have been located in the Knauf 'J' Channels and Knauf Core Board has been inserted, Knauf Earthwool Acoustic Roll can be inserted between the studs vertically. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or vertically between different rolls.

Support for Horizontal Joints in Facings

For the Knauf Fire Panel decorative facing, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs secured with 2 Knauf Wafer Head Jackpoint Screws per stud to back the horizontal joints.

Doorways

The head is formed with Knauf 'J' Channel bent and screw-fixed with Knauf Wafer Head Jackpoint Screws to Knauf Deep Flange 'U' Channels. For doors weighing up to 50kg, Knauf Deep Flange 'U' Channels are used for the frame openings inserted with treated timber of 50mm thickness, cut to the size of the stud.

Boarding 3,4,5,6,7

Installation of the Knauf Core Board should commence at one end and work across the shaftwall. Cut the first Knauf Core Board to fit into the Knauf 'J' Channel frame. Pull out tabs in the flange of the 'J' Channel at right angles to retain the Knauf Core Board. You may require a length of timber to gently tap the stud into place, as it is designed to be a tight fit. The next Knauf Core Board is fitted into the 'C-T' Stud and the process is repeated until one side of the shaftwall is complete. For airtight shafts, apply Knauf Sealant to the Knauf Core Board edges prior to installation.

For joints in the Knauf Core Board, install Knauf Core Board Channel to the top edge of the Knauf Core Board and screw-fix 150mm wide Core Board strip across the joints into the Core Board Channel. See detail 12 on page 85.

All other boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners.

Boarding should commence at one end and work across the partition. At head, base and abutments, board edges should be bedded onto continuous beads of Knauf Sealant. Board joints in multiple layers should be staggered both vertically and horizontally by a minimum of 600mm.

Tape and joint for a seamless finish.

Firefighting Shafts

When constructing a firefighting lift shaft, Knauf Performance Plus is used, as it is highly durable and able to withstand the effects of impact and water, to which it would be subjected during a fire, without losing its fire resistance or integrity when tested to BS 9999: 2008. This means that fire crews maintain protected access to all floors within the building.

1.
Fixing Knauf 'J' Channel to the soffit.

2.
Fixing Knauf 'J' Channel to the abutting wall.
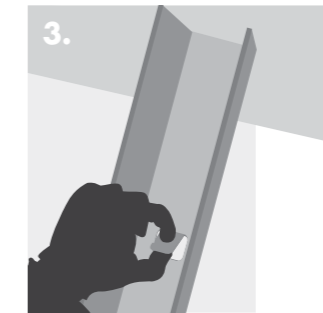
3.
The retention clips are easy to release with the Knauf Core Board in place.
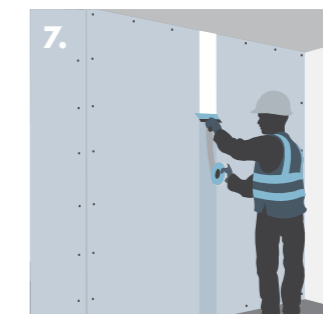

4.
Positioning Knauf 'C-T' Stud to lock Knauf Core Board into place.

5.
Knauf 'J' Channels are used vertically at corners and abutments.

6.
Fixing Knauf Fire Panel.

7.
Taping and jointing for a seamless finish.

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
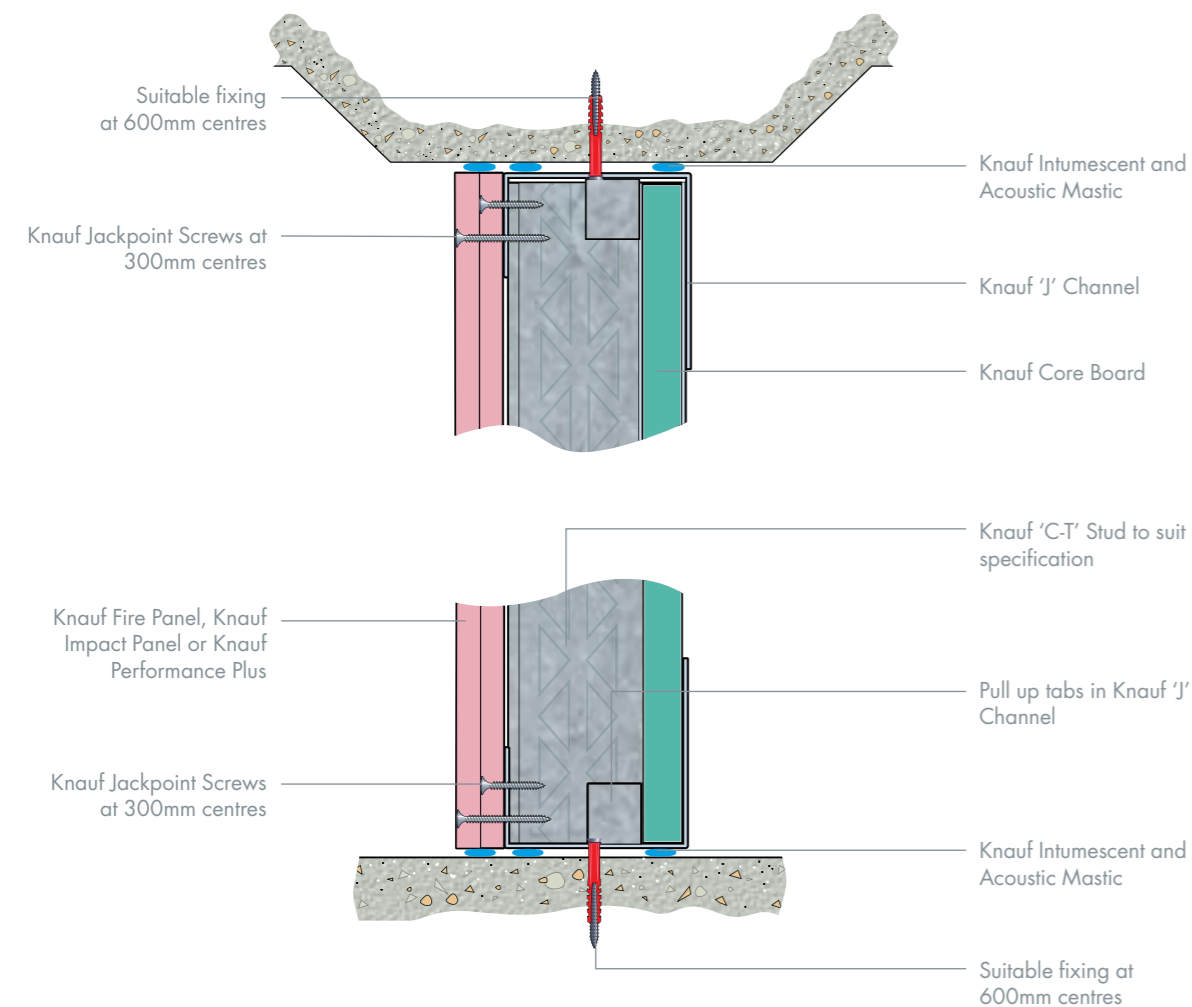
Knauf Shaftwall

Application Details

These details represent some of the most common design situations relevant to the Knauf Shaftwall partition system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
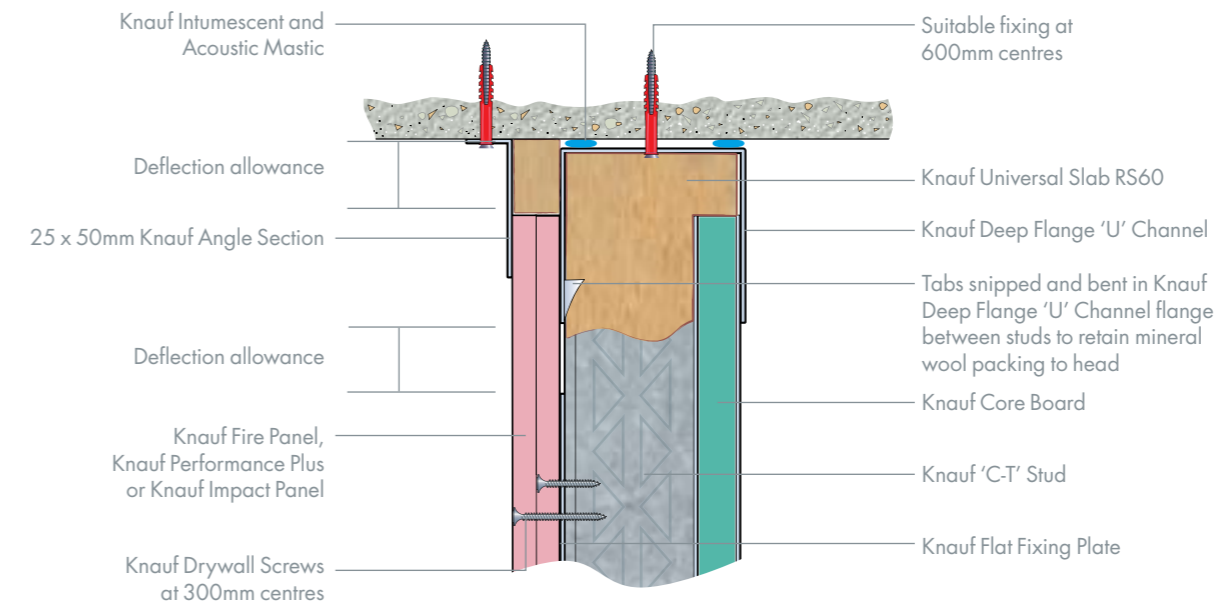
Standard head and base

Detail 1

This detail is used where the structural soffit is rigid and no allowance is needed for vertical deflection. Channels and boards should be bedded onto continuous beads of Knauf Intumescent and Acoustic Mastic to ensure efficient sound reduction by sealing air paths.

Suitable fixing at 600mm centres

Knauf Jackpoint Screws at 300mm centres

Knauf Intumescent and Acoustic Mastic

Knauf 'J' Channel

Knauf Core Board

Knauf 'C-T' Stud to suit specification

Knauf Fire Panel, Knauf Impact Panel or Knauf Performance Plus

Pull up tabs in Knauf 'J' Channel

Knauf Jackpoint Screws at 300mm centres

Knauf Intumescent and Acoustic Mastic

Suitable fixing at 600mm centres

Deflection head detail, up to 120 minutes fire resistance.

Detail 2

Knauf Intumescent and Acoustic Mastic

Suitable fixing at 600mm centres

Deflection allowance

Knauf Universal Slab RS60

25 x 50mm Knauf Angle Section

Knauf Deep Flange 'U' Channel

Tabs snipped and bent in Knauf Deep Flange 'U' Channel flange between studs to retain mineral wool packing to head

Deflection allowance

Knauf Core Board

Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel

Knauf 'C-T' Stud

Knauf Flat Fixing Plate

Knauf Drywall Screws at 300mm centres

Alternative deflection head detail, up to 120 minutes fire resistance
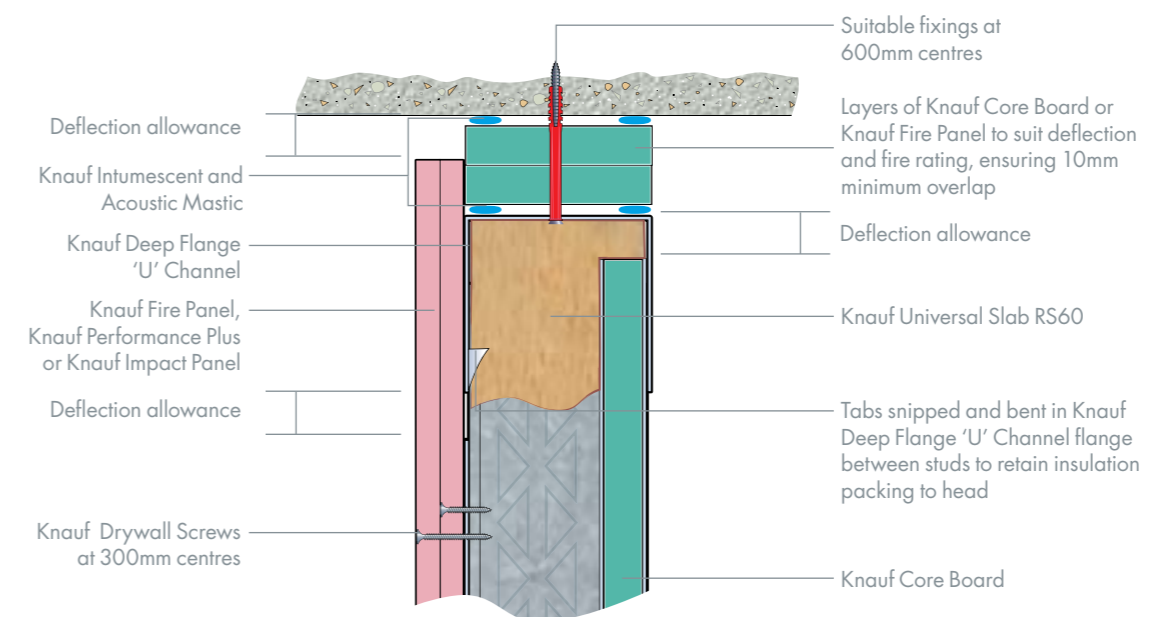
Detail 3

Deflection allowance

Suitable fixings at 600mm centres

Layers of Knauf Core Board or Knauf Fire Panel to suit deflection and fire rating, ensuring 10mm minimum overlap

Knauf Intumescent and Acoustic Mastic

Knauf Deep Flange 'U' Channel

Deflection allowance

Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel

Knauf Universal Slab RS60

Deflection allowance

Tabs snipped and bent in Knauf Deep Flange 'U' Channel flange between studs to retain insulation packing to head

Knauf Drywall Screws at 300mm centres

Knauf Core Board

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Shaftwall

Abutment

Detail 4

Abutments are formed similarly to the floor detail.

Knauf 'J' Channel

Knauf Core Board

Suitable fixings at 600mm centres

Knauf Intumescent and Acoustic Mastic

Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel
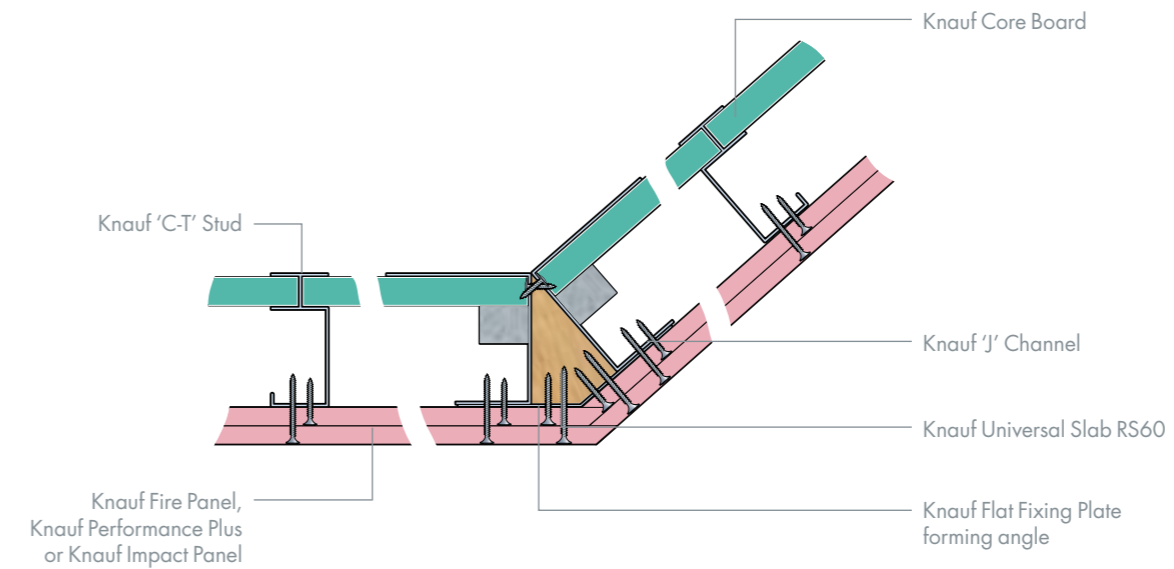
Knauf Jackpoint screws at 300mm centres

Door jamb

Detail 5

Suitable for doors weighing up to 60kg. A box section formed from a Knauf 'C-T' Stud and Knauf Deep Flange 'U' Channel forms the jamb.

Knauf Wafer Head Jackpoint Screws

Knauf Coreboard

Partition to suit specification

Knauf Deep Flange 'U' Channel fixed along length of Knauf 'C-T' Stud to underside Knauf 'J' Channel

Knauf Universal Slab RS60

Fire resistant door frame (by others)

Timber ground

Knauf Drywall screws at maximum 200mm centres at opening for door frame

Two pairs of fixings: one pair at jamb stud base; one pair at 150mm from door jamb remainder

Corner 90°

Detail 6

Fixing at the junction should be made from 'J' Channel to 'J' Channel.

Knauf 'C-T' Studs at 600mm centres

Knauf Core Board

Knauf Jackpoint Screws at max. 300mm centres

Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel

Knauf 'J' Channels screw-fixed together at 600mm centres

Pull-down tabs in the Knauf 'J' Channel to retain the Core Board

Splayed corner

Detail 7

Knauf Core Board

Knauf 'C-T' Stud

Knauf 'J' Channel

Knauf Universal Slab RS60

Knauf Flat Fixing Plate forming angle

Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Shaftwall

Pipe penetration

Detail 8

Suitable for small pipes – typically up to 40mm diameter.

The mineral wool must be secured around the pipe with wire or mesh.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Knauf Universal Slab RS60

Knauf Intumescent and Acoustic Mastic

Wire mesh to hold insulation

10mm

50mm
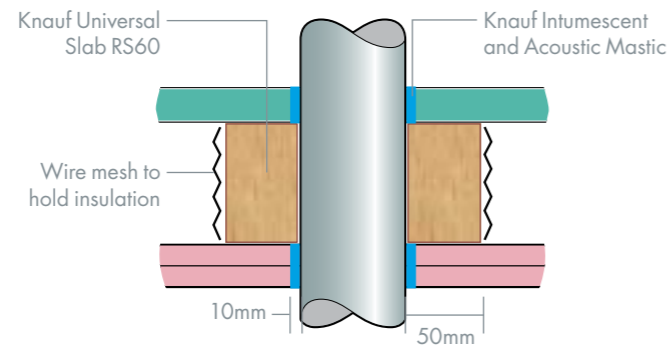
Pipe penetration

Detail 9

For PVC pipes, with a diameter of up to 160mm, a Fire Collar is fixed to both sides in accordance with the manufacturer's recommendations.

Note: Check with pipe manufacturer that pipe material is compatible with Knauf Intumescent and Acoustic Mastic.

Fire collar (by others)

Knauf Shaftwall Partition to suit specification

Knauf Intumescent and Acoustic Mastic
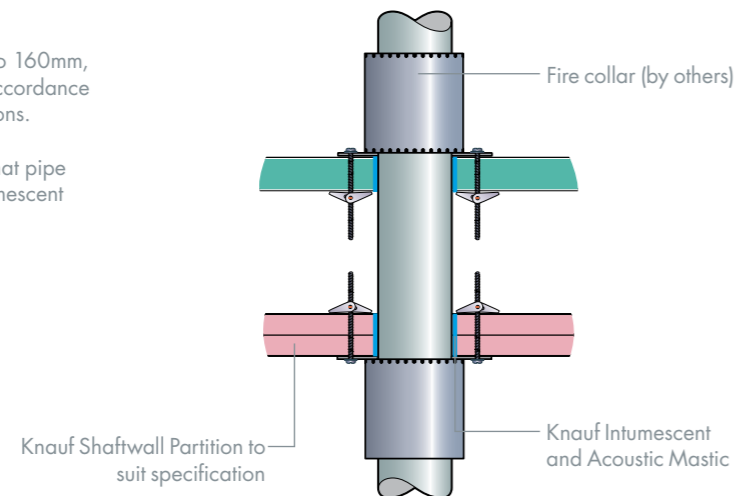
Duct penetration

Detail 10

For steel pipes and ducts above 160mm diameter, Knauf 'J' Channels form an opening for the duct. Fire dampers in ductwork, when present, should be independently supported and installed in accordance with the manufacturer's instructions.
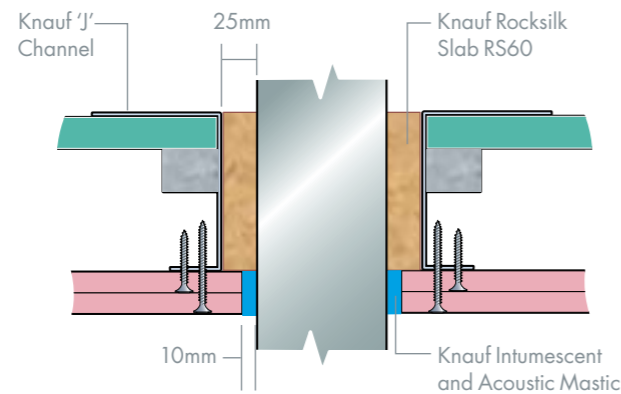
Knauf 'J' Channel

25mm

Knauf Rocksilk Slab RS60

10mm

Knauf Intumescent and Acoustic Mastic

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Generate specifications at **www.knauf.co.uk**

Stud splicing

Detail 11

Whenever possible, full height Knauf 'C-T' Studs should be used. If splicing is necessary then this detail incorporating Knauf 'C' Studs or Knauf 'U' Channels should be used.

Joints should be staggered vertically; the Knauf 'C' Stud sizes listed below should be used for the Knauf 'C-T' Studs indicated.

Knauf 'C-T' Stud

Knauf 'C' Studs extending 600mm above and below the 'C-T' joint, fixed through with a minimum of 6 Knauf Wafer Head Jackpoint Screws
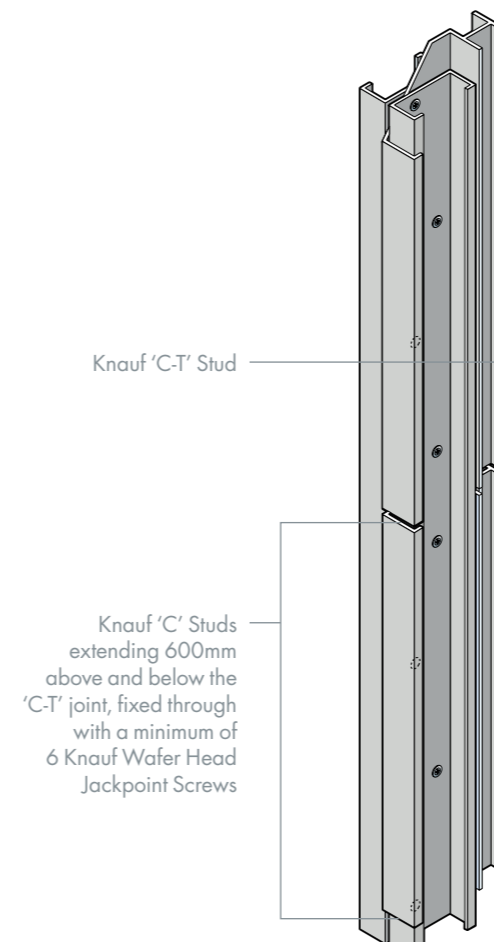
Size 'C-T' Stud	Use 'C' Stud
60mm	30mm*
92mm	50mm
146mm	92mm

* Knauf Apertura 'U' Channel should be used

Knauf Core Board horizontal joint

Detail 12

Where horizontal joints occur, install the Knauf Core Board Channel to the top edge of the Knauf Core Board, and screw -ix 150mm wide Knauf Core Board strips across the joint to maintain the fire performance.
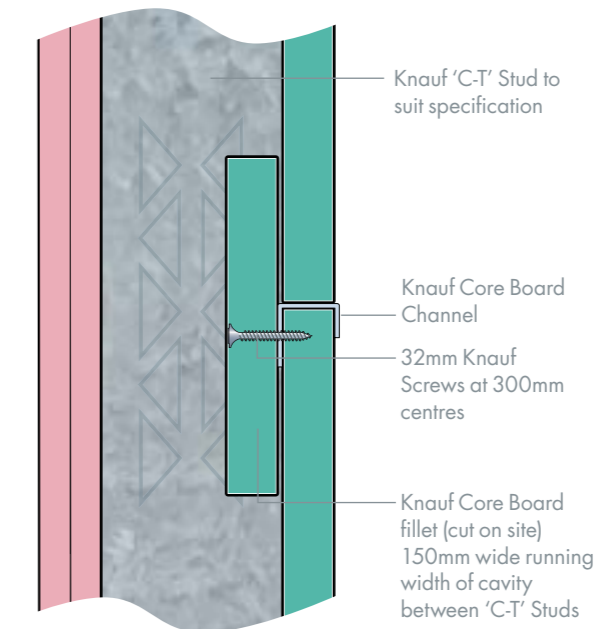
Knauf 'C-T' Stud to suit specification

Knauf Core Board Channel

32mm Knauf Screws at 300mm centres

Knauf Core Board fillet (cut on site) 150mm wide running width of cavity between 'C-T' Studs

Generate specifications at **www.knauf.co.uk**

Wall Linings

Our versatile range of wall lining systems makes it easy to produce a high-quality, high-performance finished wall regardless of the background.

Whether your priority is acoustic control, fire resistance, minimum stand-off, maximum service cavity space, high insulation or to support tiles, we have a solution already designed to suit.

As well as complete dry lining solutions we also provide fast-drying parge coat to ensure air-tightness, and a range of readymix and gypsum-based spray-applied projection plasters to suit backgrounds from masonry and smooth concrete to plasterboard.

Generate specifications at **www.knauf.co.uk**

Knauf Direct Bonding and Metal Furring

Knauf Direct Bonding and Metal Furring Linings are the simplest and quickest of drylining systems to install. They are suitable for most brick, block and concrete backgrounds and will work with a wide range of Knauf Plasterboards.

Insulating Laminates

Our range of high-efficiency Insulating Laminate boards provide instant energy savings.

Plasterboard Adhesive

Knauf Plasterboard Adhesive is used to quickly bond Knauf Plasterboards or Metal Furring Channels to masonry backgrounds.

Knauf Plasterboard

The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

Metal Furring

Knauf Metal Furring Channel.

Generate specifications at **www.knauf.co.uk**
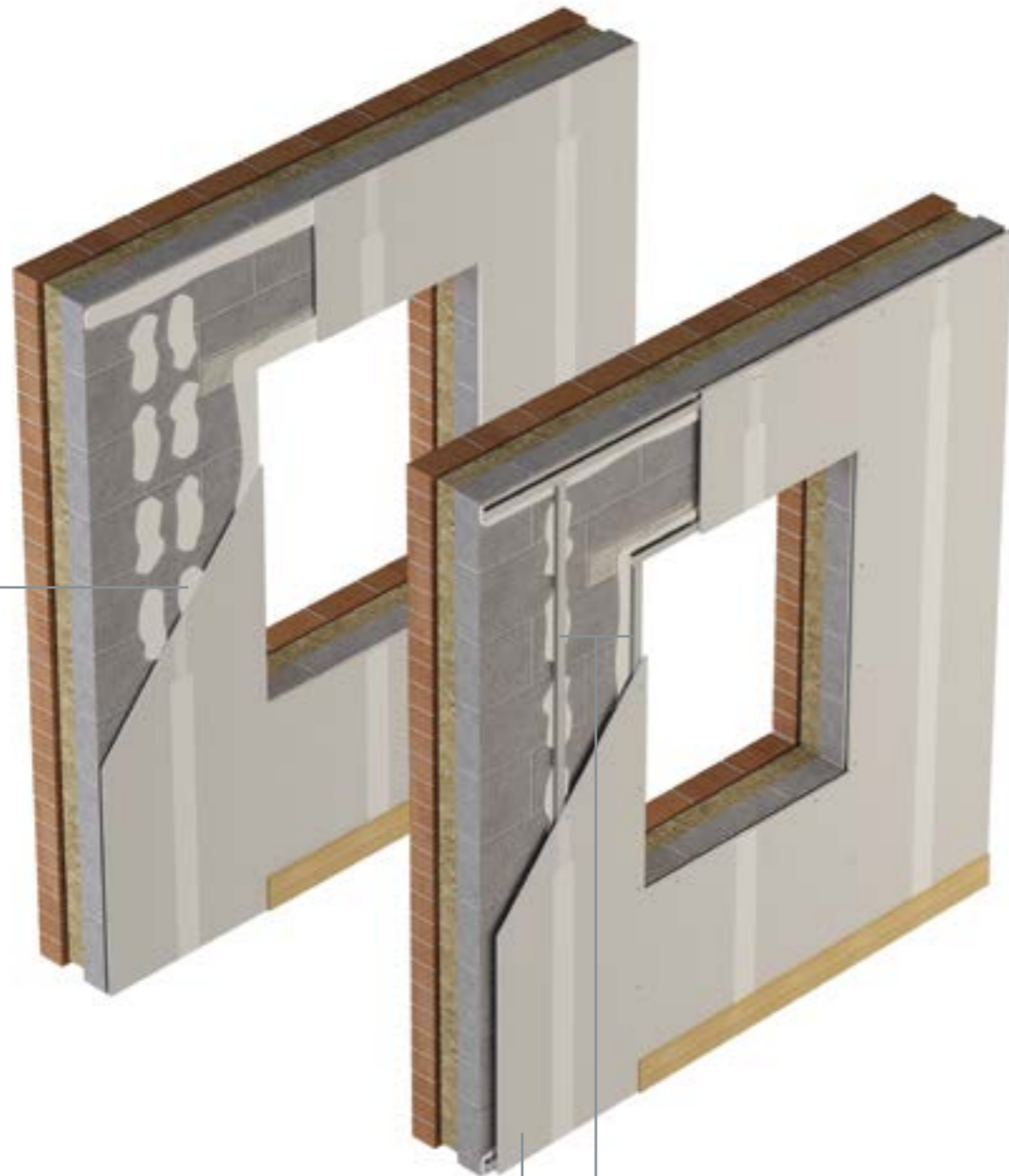
Direct Bonding

Knauf Direct Bonding provides a high-quality, robust lining in the shortest possible time frame, speeding up projects. If a board must be mechanically fixed, then Knauf Metal Furring can be used.

Key Features
- Quick and economical to install
- Easily accommodates services
- No need to mechanically fix to background
- Does not take up valuable room area

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

´Other Components

The Knauf Jointing range ensures that strong, high-quality joints are easy to achieve.

Use Knauf Gypsum Parge Coat to seal masonry walls, ensuring all gaps are filled, especially at junctions and corners.

Knauf Sealant seals gaps, minimises airborne sound transmission and vibrations.

Other Wall Lining Systems:

Knauf Direct Bonding and Metal Furring

Installation Procedures

Knauf linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Direct Bonding and Metal Furring lining systems must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Preparation

Pre-treat backgrounds if necessary and remove all release agents.

If Direct Bonding a masonry separating wall, it may be necessary to apply a coat of Knauf Gypsum Parge Coat at a minimum thickness of 6mm to the entire wall surface. Ensure all gaps are sealed, especially at junctions and corners. Knauf Gypsum Parge Coat should have a key applied, and then be allowed to set fully prior to Direct Bonding with Knauf Plasterboards.

In all instances, the background should be plumbed for alignment, making allowances for over-sailing high spots on the masonry. Mark guidelines on the floor and soffit to establish the new wall plane. Mark vertical guidelines on the background to establish the bonding positions as determined by lining system type and the board size and thickness as shown in the table below.

Perimeter 1

A continuous band of Knauf Plasterboard Adhesive should be applied around the wall perimeter, service penetrations and openings to improve the airtightness and reduce the effects of cold convection currents impairing the thermal performance of the wall construction.

Application of Knauf Plasterboard Adhesive and Boarding 2

Apply Knauf Plasterboard Adhesive dabs, spaced intermittently up the wall along the vertical guidelines. The size and position of the dabs will vary depending on the dry lining system being used.

Direct Bonding 3,4

If Direct Bonding, dabs should be applied at 300mm vertical centres and each dab should be 250mm long and 50mm to 75mm wide. The dabs should be applied between 10mm and 25mm thick and sufficient for the fixing of one board at a time.

After dabbing out and before the dabs have set, offer up the plasterboard and press firmly into place, aligning the board so that it is plumb. Ensure the plasterboard is clear of the ground by at least 10mm; this can be accommodated by an off-cut of board. Modest pressure on the plasterboard will ensure a positive bond.

Knauf Insulating Laminates require secondary fixing with two mid-placed Knauf Nailable Plugs, penetrating the backgrounds through the dab by at least 40mm.

Metal Furring 5,6,7, 8

When using the Knauf Metal Furring system, dabs should be applied at 450mm centres and each dab should be 200mm long and 50mm wide.

Knauf Metal Furring Channels should be bedded into the dabs and continuous bands of Knauf Plasterboard Adhesive. These can be manipulated with a straight edge to ensure that they align with the guidelines marked on the floor.

Additional lengths of Knauf Metal Furring Channel are positioned around service penetrations and door and window openings.

Once the Knauf Plasterboard Adhesive has fully set (approximately 3–4 hours), Knauf Plasterboards can be screw-fixed into the Metal Furring Channels using Knauf Screws at nominal 300mm centres. Fixings should be to all vertical and horizontal sections of Knauf Metal Furring Channel.

Dab centres when direct bonding using Knauf Plasterboard Adhesive

Thickness of Wallboard	Width	Adhesive Centres	Row of Dabs per Board
9.5mm	900mm	450mm	3
9.5mm	1200mm	400mm	4
12.5mm	1200mm	600mm	3

Generate specifications at **www.knauf.co.uk**

Direct Bonding

1. Applying a continuous band of Knauf Plasterboard Adhesive around the perimeter.

2. Applying Knauf Plasterboard Adhesive dabs at the required centres.

3. Offering up Knauf Plasterboard and pressing into place.

4. Offering up Knauf Insulating Laminate for a better thermal performance.

Metal Furring

5. Applying Knauf Plasterboard Adhesive around the perimeter and at the required centres.

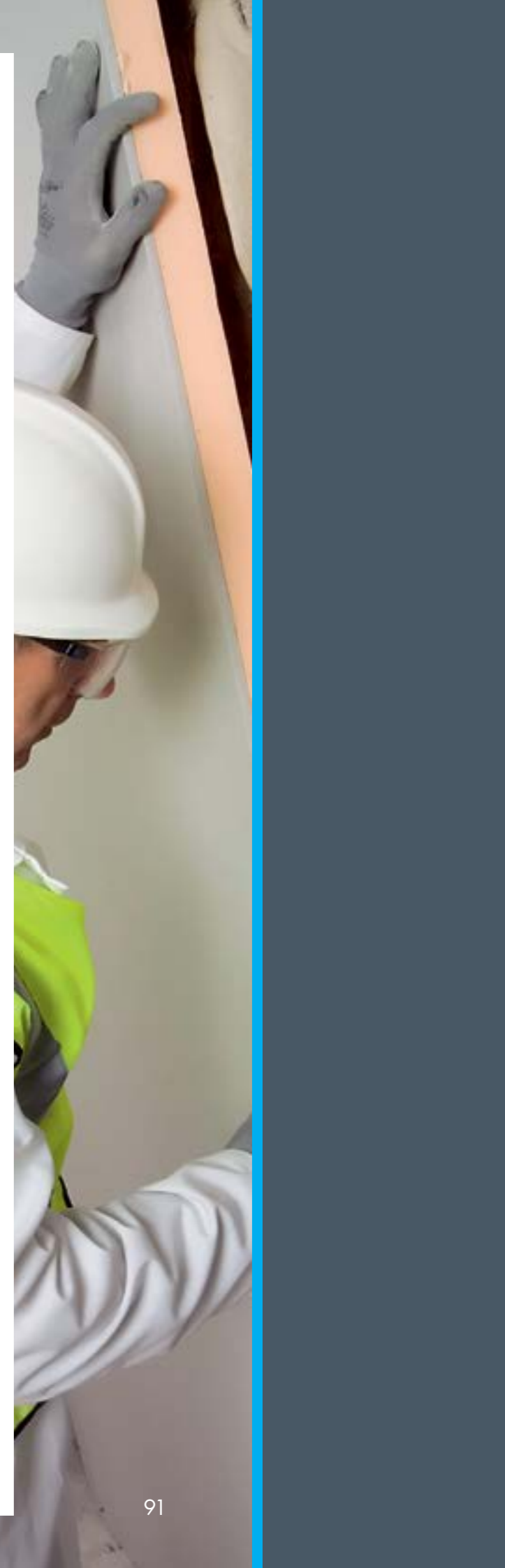**6.** Ensuring Knauf Metal Furring Channels are fixed plumb.

7. Fixing Knauf Plasterboard onto the Knauf Metal Furring Channel.
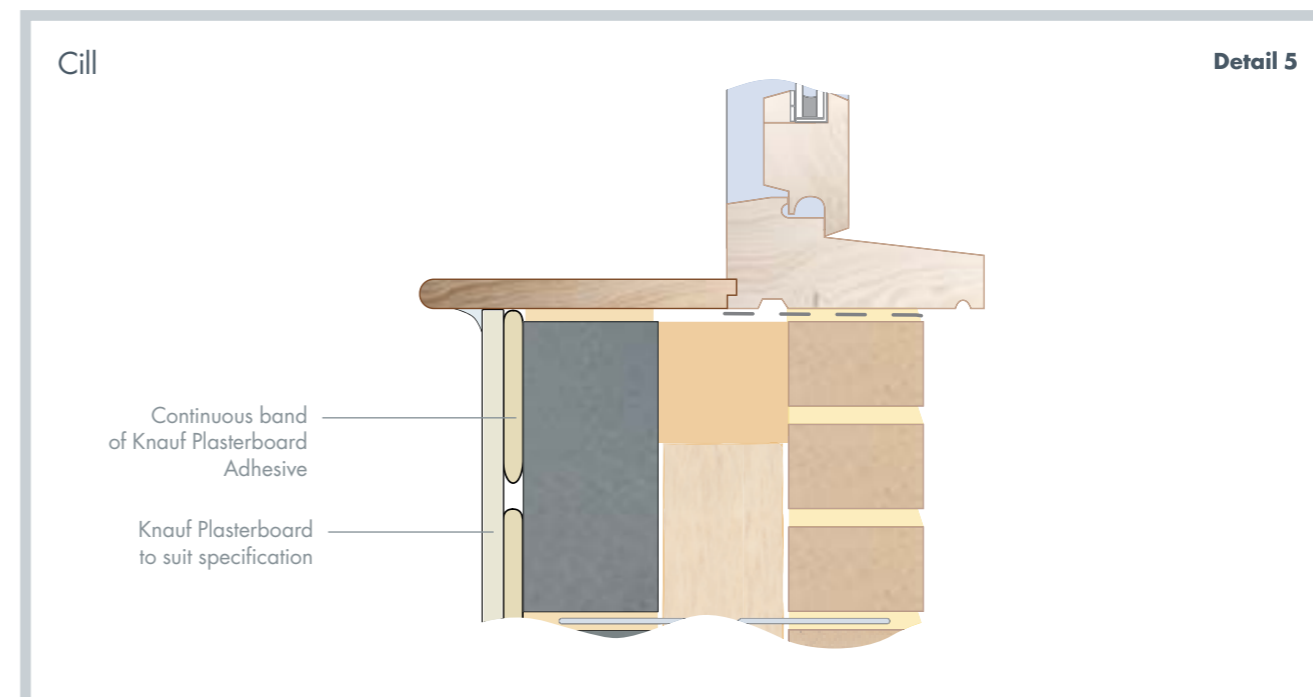
8. Finishing using Knauf Plaster.
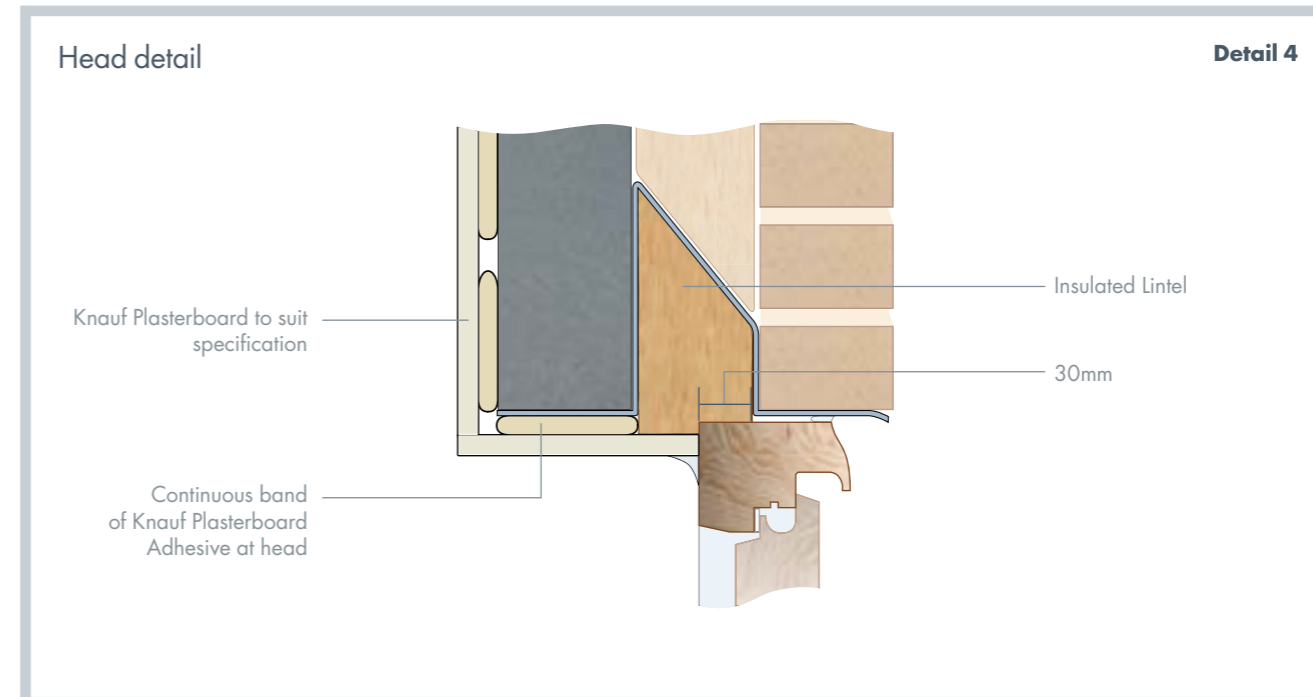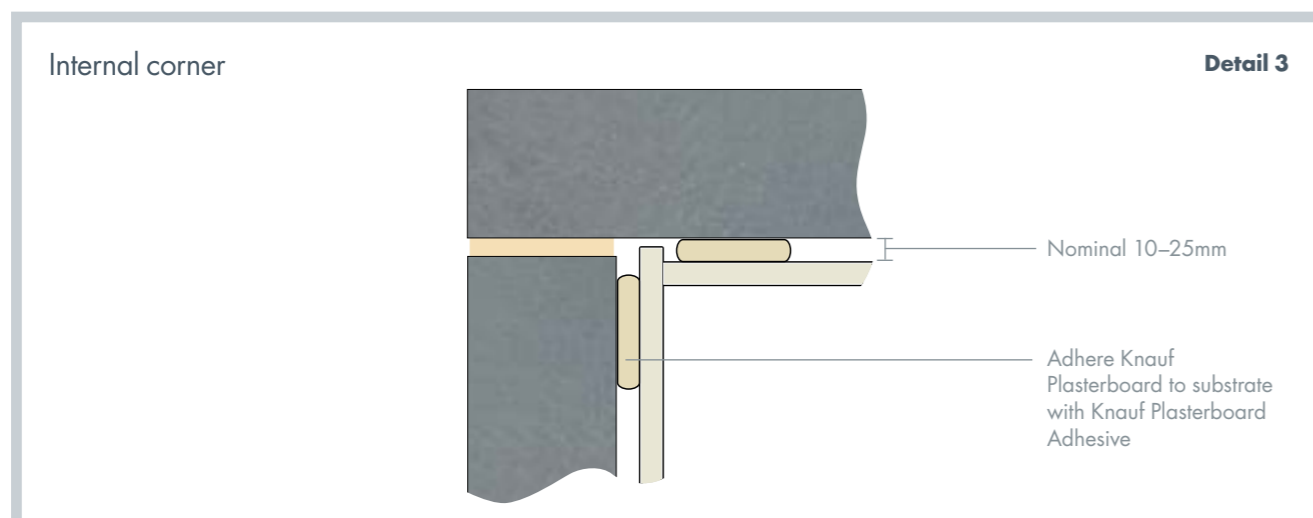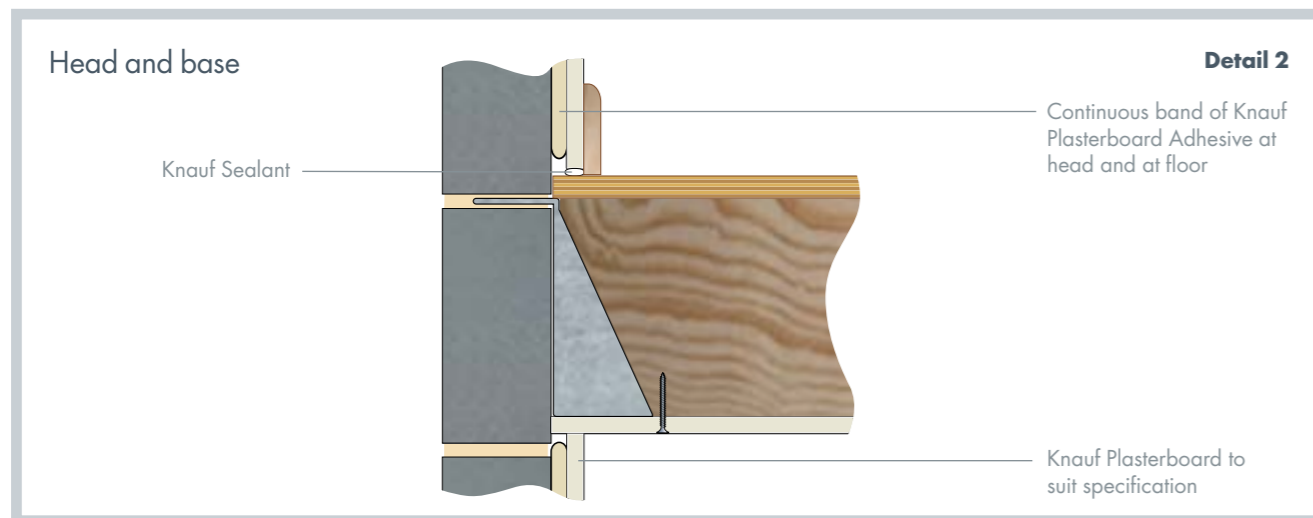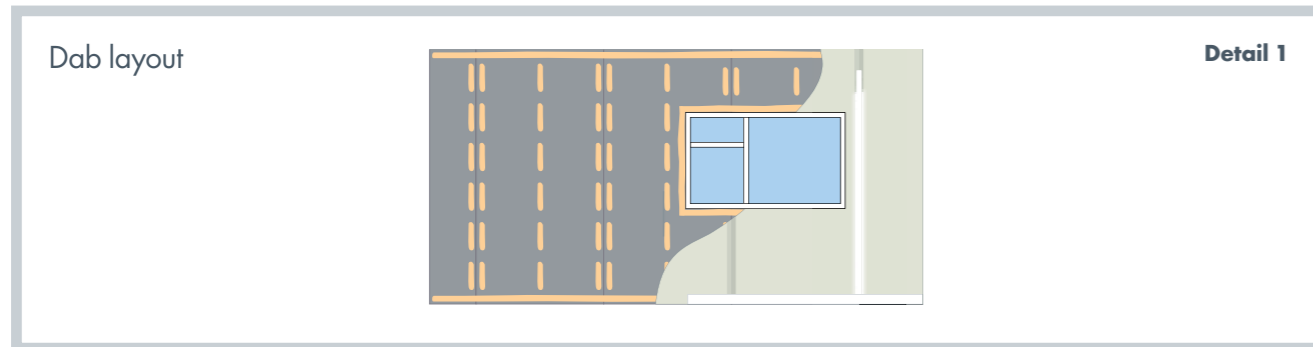
Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.

Knauf Direct Bonding

Application Details

These details represent some of the most common design situations relevant to the Knauf Direct Bonding system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
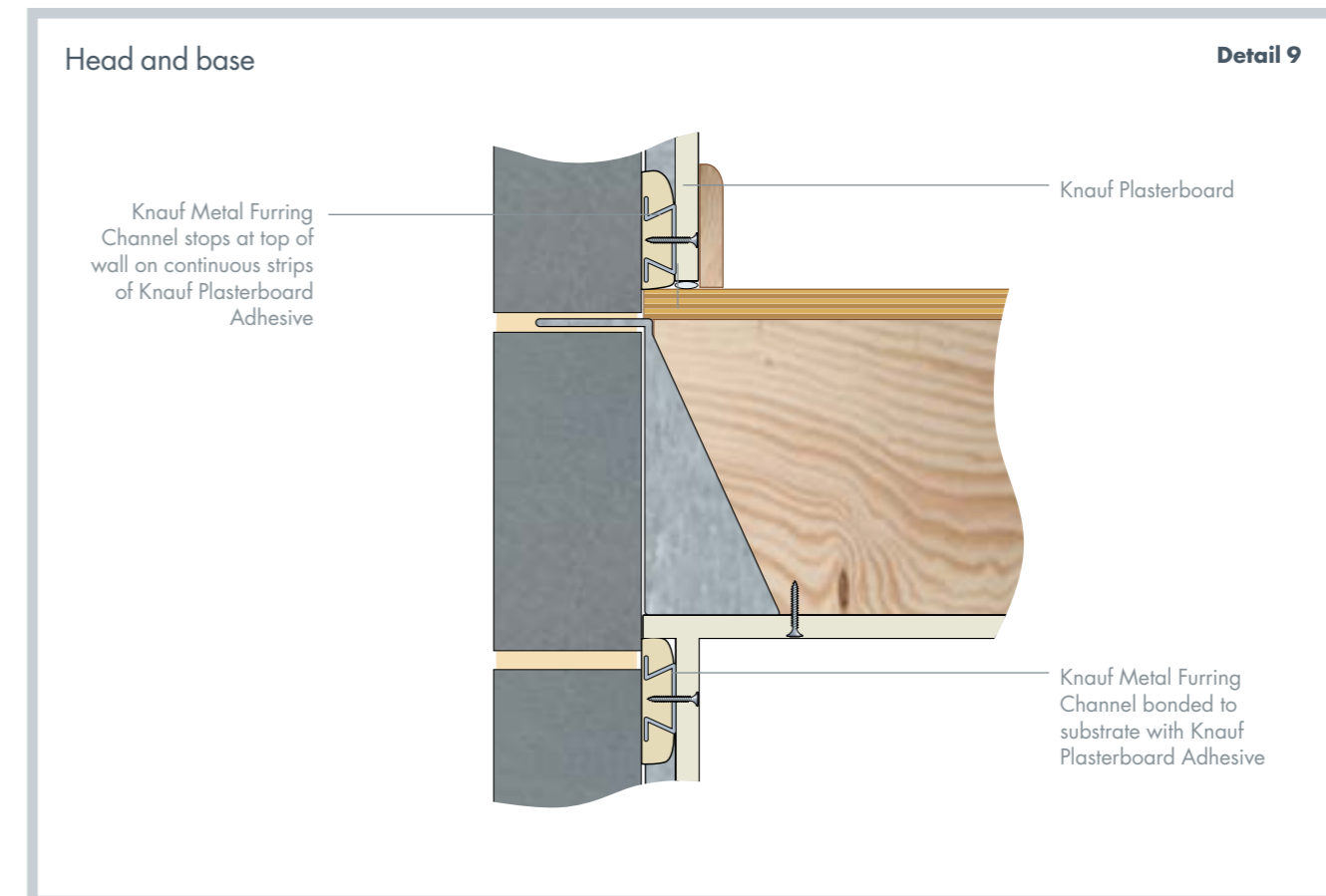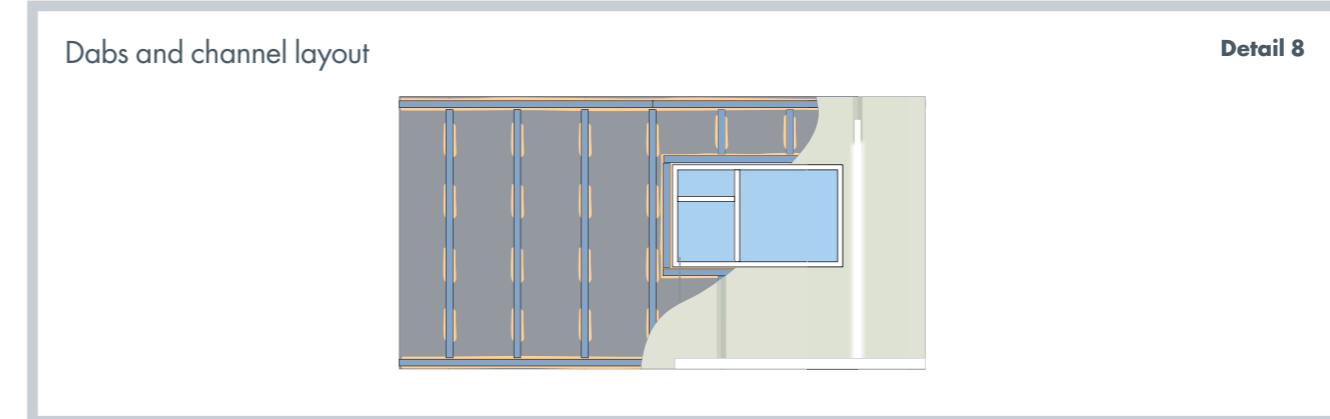
Dab layout

Detail 1

Head and base

Detail 2

Knauf Sealant

Continuous band of Knauf Plasterboard Adhesive at head and at floor

Knauf Plasterboard to suit specification

Internal corner

Detail 3

Nominal 10–25mm

Adhere Knauf Plasterboard to substrate with Knauf Plasterboard Adhesive

Head detail

Detail 4

Knauf Plasterboard to suit specification

Insulated Lintel

30mm

Continuous band of Knauf Plasterboard Adhesive at head

Cill

Detail 5

Continuous band of Knauf Plasterboard Adhesive

Knauf Plasterboard to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Direct Bonding

Application Details

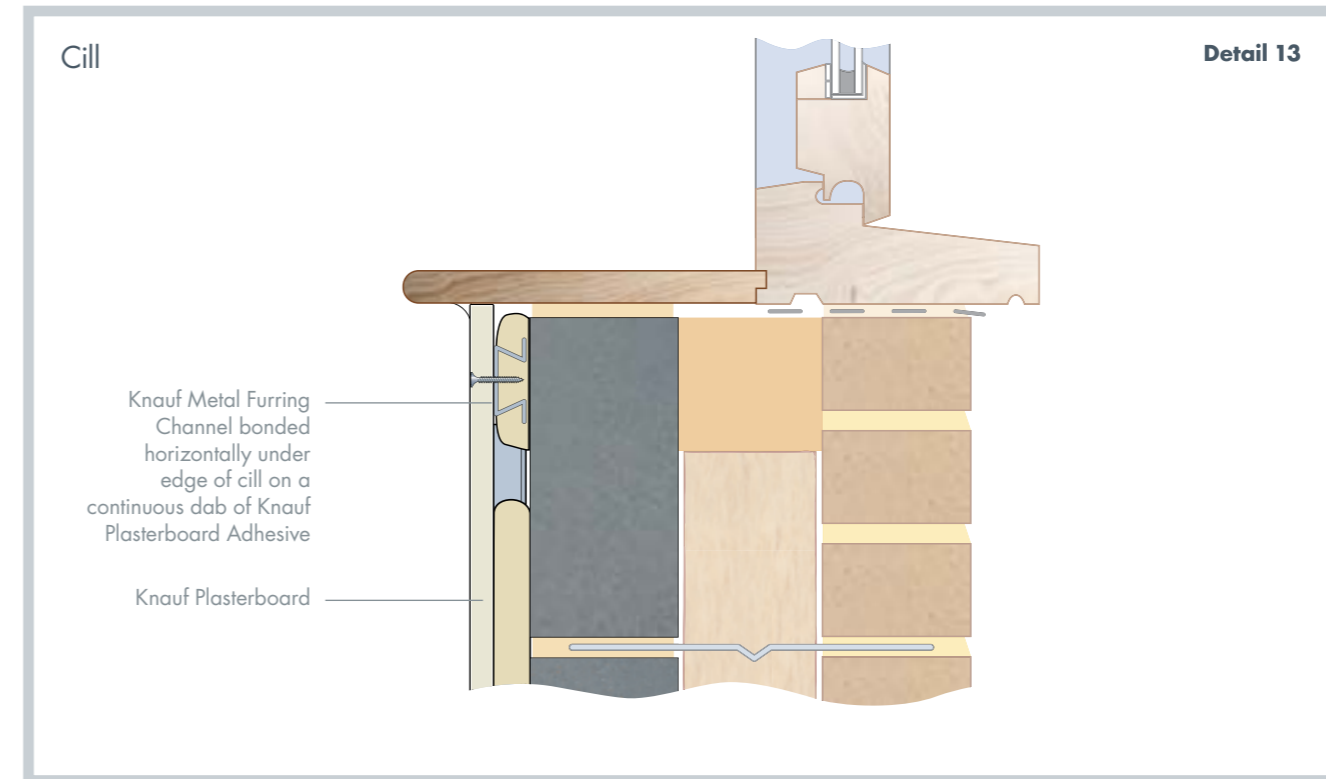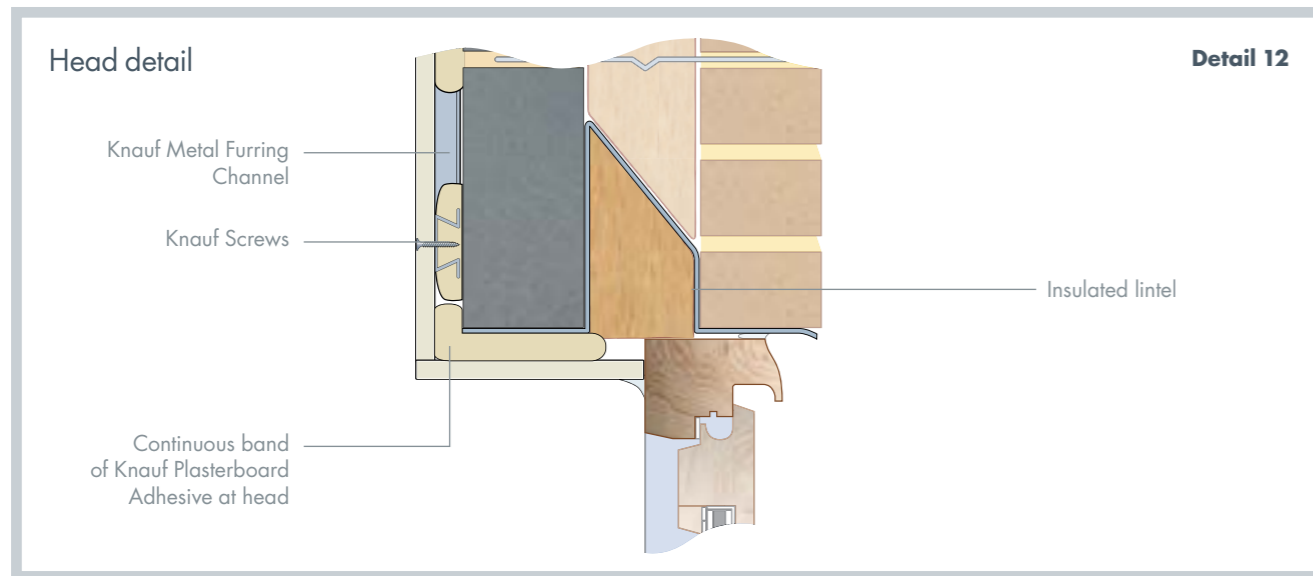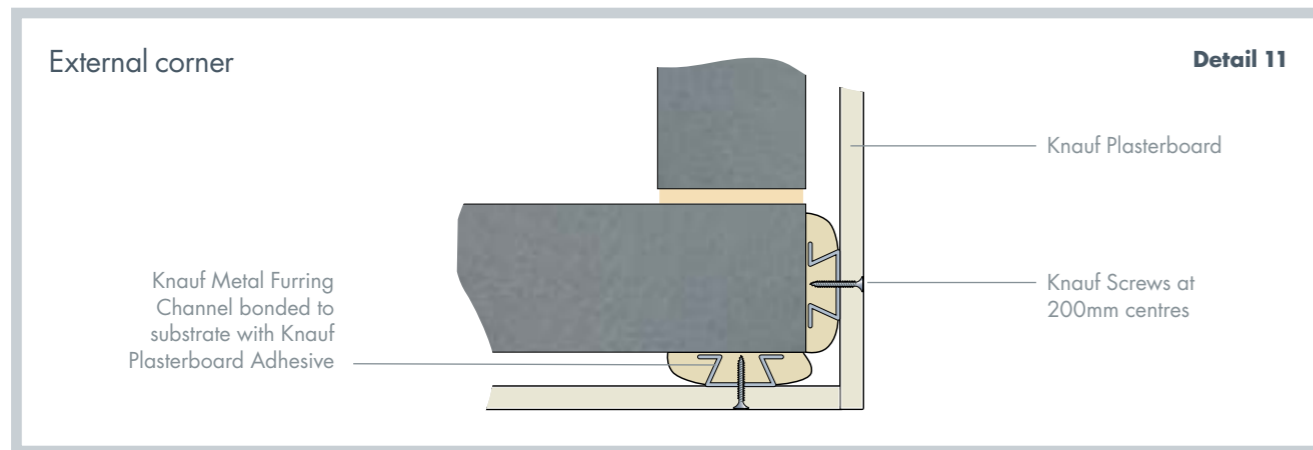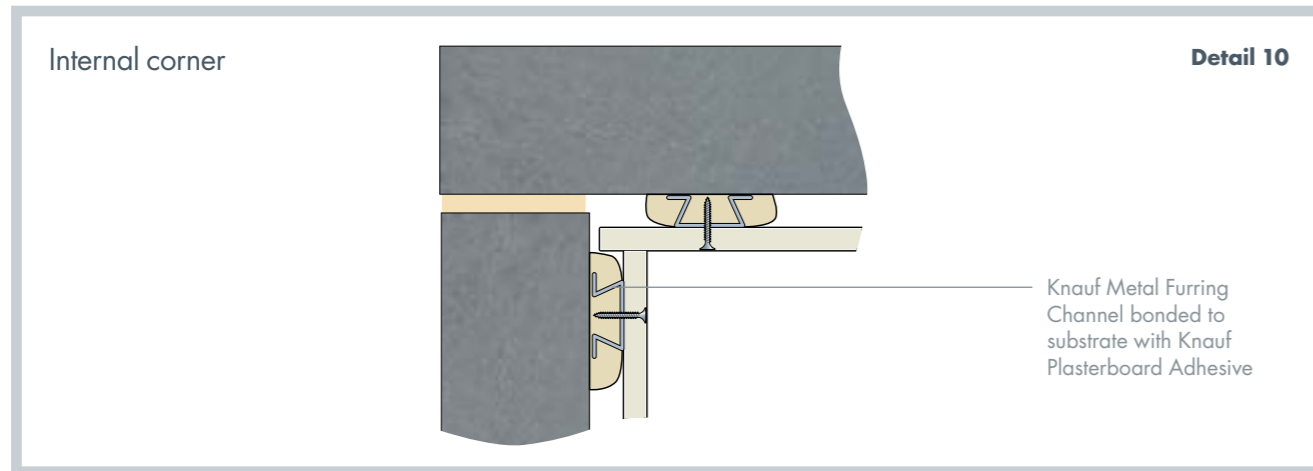These details represent some of the most common design situations relevant to the Knauf Direct Bonding system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Jamb   **Detail 6**

Continuous band of Knauf Plasterboard Adhesive

Knauf Plasterboard Adhesive dabs applied close to masonry corner

Abutment, for non-fire-rated partition   **Detail 7**

Abutting stud fixed through Knauf Plasterboard Adhesive dabs with suitable fixings at maximum 600mm centres

Knauf Plasterboard to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Metal Furring

Application Details

These details represent some of the most common design situations relevant to the Knauf Metal Furring system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Dabs and channel layout   **Detail 8**

Head and base   **Detail 9**

Knauf Metal Furring Channel stops at top of wall on continuous strips of Knauf Plasterboard Adhesive

Knauf Plasterboard

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

Metal Furring

Internal corner

Detail 10

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

External corner

Detail 11

Knauf Plasterboard

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

Knauf Screws at 200mm centres

Head detail

Detail 12

Knauf Metal Furring Channel

Knauf Screws

Insulated lintel

Continuous band of Knauf Plasterboard Adhesive at head

Cill

Detail 13

Knauf Metal Furring Channel bonded horizontally under edge of cill on a continuous dab of Knauf Plasterboard Adhesive

Knauf Plasterboard

Jamb

Detail 14

Knauf Plasterboard bonded directly to a continuous dab of Knauf Plasterboard Adhesive

Knauf Metal Furring Channel bonded to substrate with Knauf Plasterboard Adhesive

Knauf Screws

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Wall Liner

The Knauf Wall Liner System is extremely versatile and can be specified for application on masonry backgrounds with moderate irregularities between 20mm and 125mm. It can accommodate any of the range of Knauf Plasterboards.
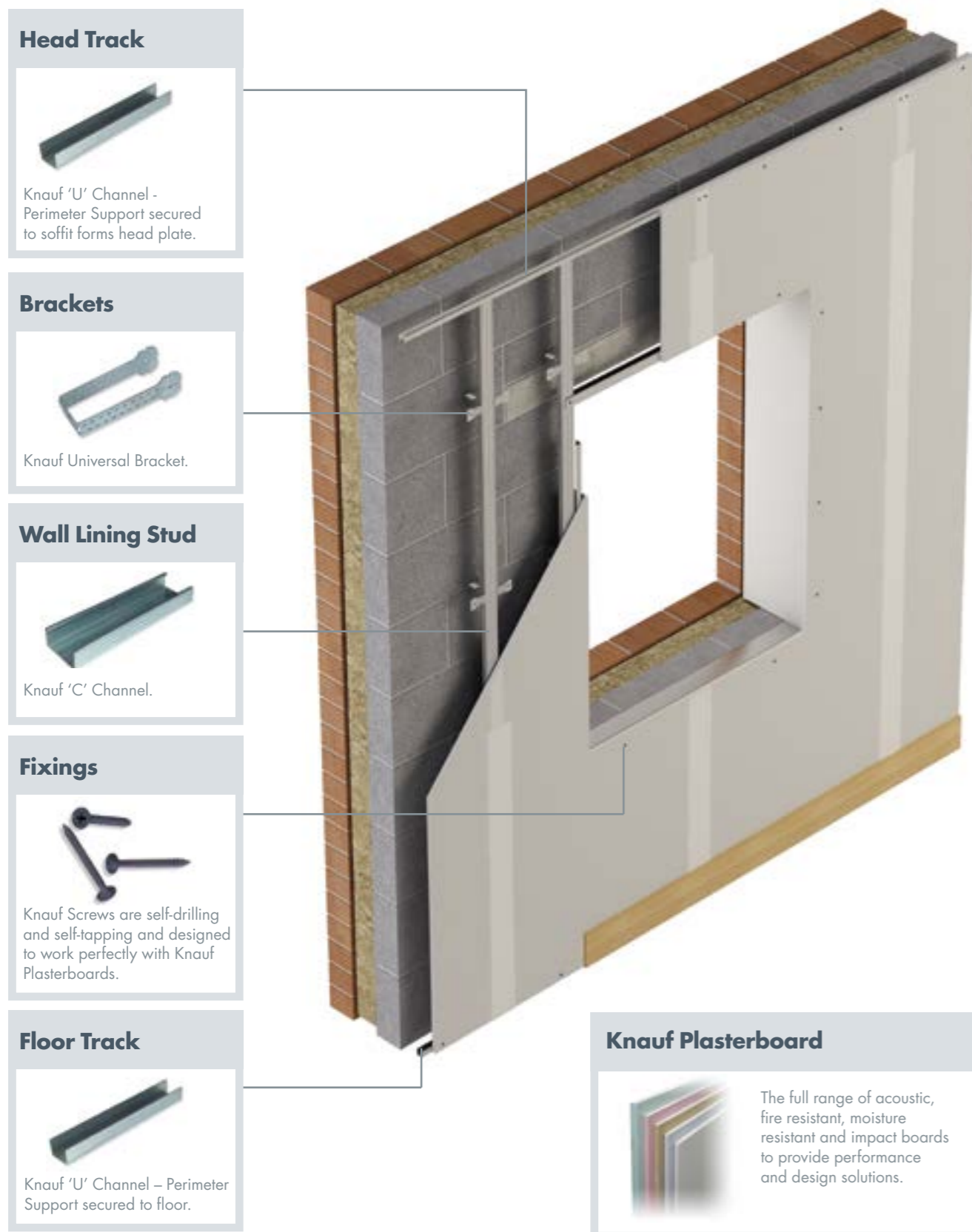
Head Track

Knauf 'U' Channel - Perimeter Support secured to soffit forms head plate.

Brackets

Knauf Universal Bracket.

Wall Lining Stud
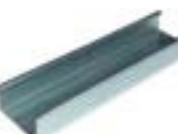
Knauf 'C' Channel.

Fixings

Knauf Screws are self-drilling and self-tapping and designed to work perfectly with Knauf Plasterboards.

Floor Track

Knauf 'U' Channel – Perimeter Support secured to floor.

Knauf Plasterboard

The full range of acoustic, fire resistant, moisture resistant and impact boards to provide performance and design solutions.

Generate specifications at **www.knauf.co.uk**

Wall Liner

The Knauf Wall Liner System is a strong impact-resistant system that corrects background irregularities and requires little or no background preparation.

Key Features

- Can overcome substantial irregularities on background
- The lining void can accommodate large service runs and any required insulation
- Little or no background preparation is required

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and readymix solutions. See our full guide on page 210.

Insulating Laminates

The Knauf Insulating Laminate range provides instant energy savings.

Other Components

Knauf Movement Control Joint is an aluminium 'V' section used to bridge gaps left for expansion and contraction.

Knauf Sealant seals gaps, minimises airborne sound transmission and air leakage.

Knauf Fixing Channel/Knauf Flat Fixing Plate provides fixing for horizontal joints or support for fixtures.

Use Knauf Gypsum Parge Coat to seal masonry walls ensuring all gaps are filled, especially at junctions and corners.

Other Wall Lining Systems:

Knauf Wall Liner

Installation Procedures

Knauf Wall Linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf Wall Liner must be installed in accordance with Knauf 's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

Preparation

Mark guidelines on the floor and soffit to establish the positions of floor and head tracks relative to the stand-off distance required.

Mark vertical guidelines on the background to establish the Knauf 'C' Channel positions at maximum 600mm centres for 12.5mm Knauf Plasterboard.

Depending on the required storey height, mark the wall with the location of intermediate Knauf Universal Brackets in line with the channel guidelines and maximum 900mm vertical centres.
Position service runs and outlets.

Framing 1,2,3

Knauf 'U' Channel – Perimeter Support channels should be used for the head and base of the lining. Bed each section on two continuous beads of Knauf Sealant along the guidelines using fixings appropriate for the background. Fix at nominal 600mm centres.

Fix the intermediate Knauf Universal Brackets to the background, at the marked positions, using fixings appropriate for the background.

Offer up the Knauf 'C' Channels to engage with the Knauf Universal Brackets and with the floor and head tracks. Extend the length of Knauf 'C' Channels where necessary by using Knauf 'C' Channel Connectors. Adjust the studs for position and alignment.

Secure the Knauf 'C' Channels to the Knauf Universal Brackets using two Knauf Wafer Head Screws per side, per bracket. Depending on the stand-off distance, bend back the legs of the crimped universal brackets so as not to obstruct the fixing of the board.

Fix Knauf Angle Sections at external corners and reveals, where appropriate.

Insulation

Install insulation quilt where required, between and behind the vertical Knauf 'C' Channels for continuity and to prevent slumping.
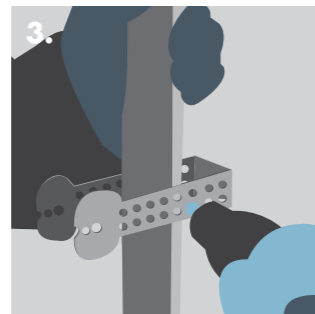
Boarding 4

The plasterboard lining is fixed by screwing into the metal framework, using Knauf Screws at 300mm centres. Reduce to 200mm at corners. Fixings should be to all horizontal and vertical members.

1. Fixing Knauf 'U' Channel – Perimeter Support to the soffit.

2. Marking position for the Knauf Universal Bracket.

3. Fixing Knauf 'C' Channel to the Knauf Universal Bracket.
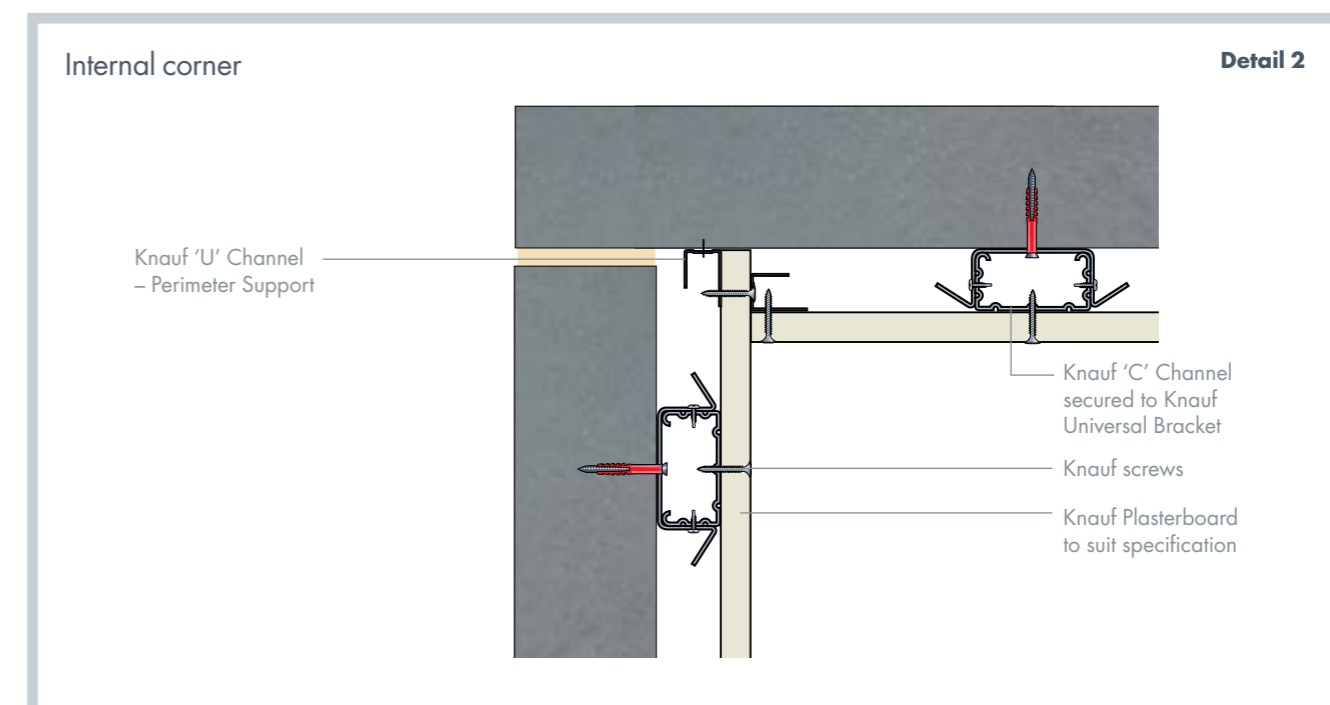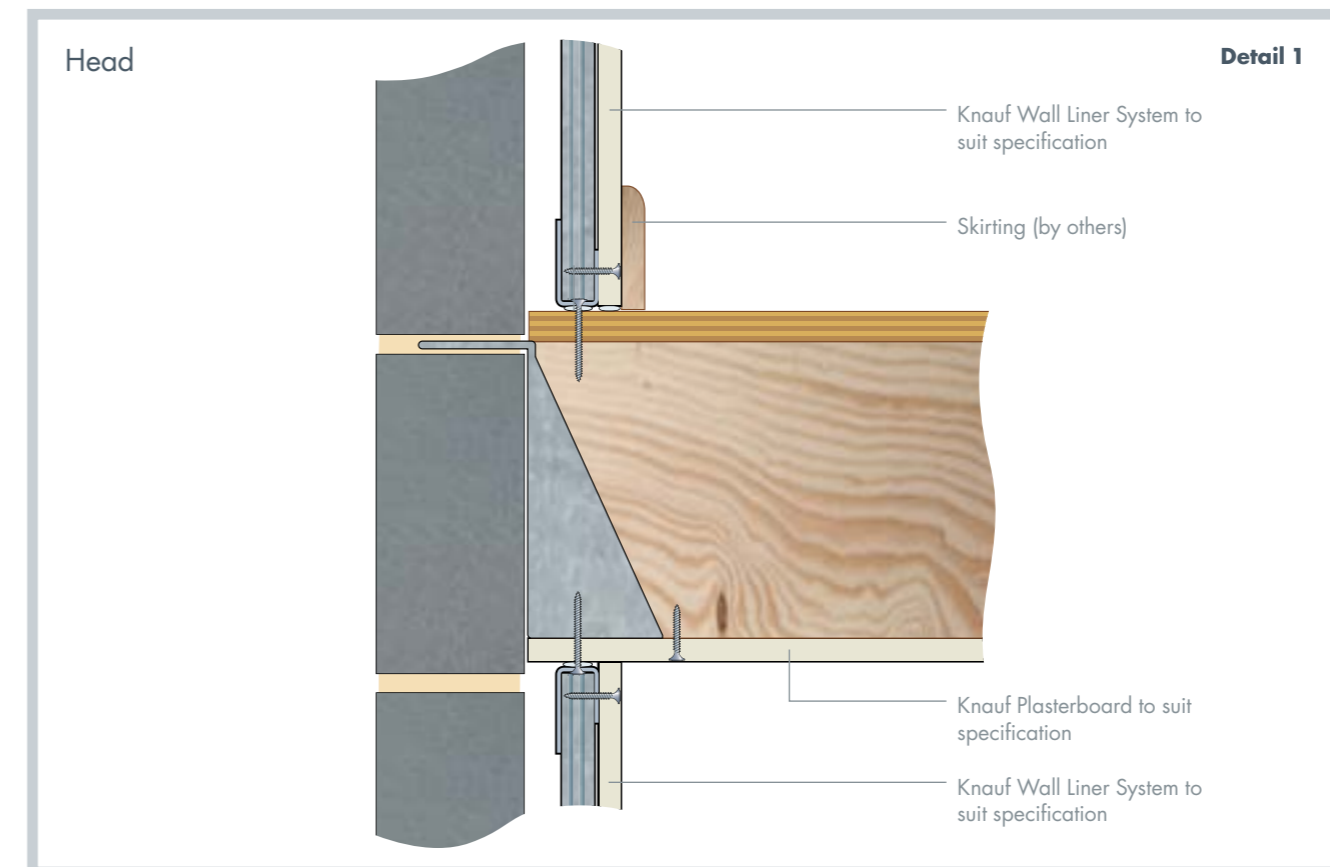
4. Fixing Knauf Plasterboard to the Knauf 'C' Channel.

Generate specifications at www.knauf.co.uk

Knauf Wall Liner

Application Details

These details represent some of the most common design situations relevant to the Knauf Wall Liner system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
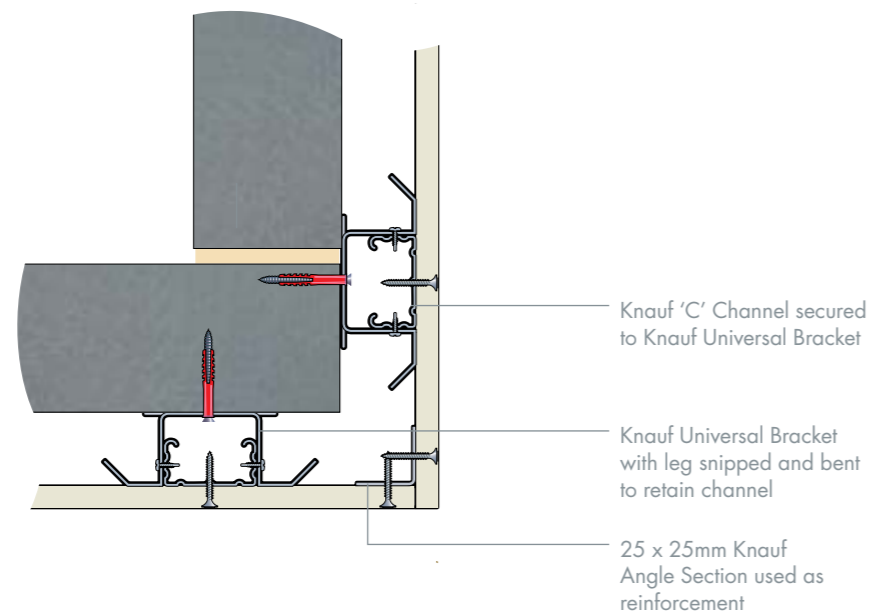

Head — Detail 1

- Knauf Wall Liner System to suit specification
- Skirting (by others)
- Knauf Plasterboard to suit specification
- Knauf Wall Liner System to suit specification

Internal corner — Detail 2

- Knauf 'U' Channel – Perimeter Support
- Knauf 'C' Channel secured to Knauf Universal Bracket
- Knauf screws
- Knauf Plasterboard to suit specification

Generate specifications at www.knauf.co.uk

Knauf Wall Liner

External corner

Detail 3

Knauf 'C' Channel secured to Knauf Universal Bracket

Knauf Universal Bracket with leg snipped and bent to retain channel

25 x 25mm Knauf Angle Section used as reinforcement

Reveal head

Detail 4

Knauf Universal Bracket

Knauf Screws at 200mm centres

25 x 50mm Knauf Angle Section

30mm

Minimum 30mm overlap between window frame and lintel insulation

Reveal cill

Detail 5

Knauf 'U' Channel – Perimeter Support

Cavity closer

Knauf Universal Bracket secured to background and screw-fixed to channel with two Knauf Wafer Head Jackpoint Screws each side

Reveal detail

Detail 6

Minimum 30mm overlap between window frame and lintel insulation

Cavity closer

30mm

25 x 50mm Knauf Angle Section

25 x 25mm Knauf Angle Section

Knauf 'C' Channel secured to Knauf Universal Bracket

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Independent 'I' Stud

Knauf Independent 'I' Stud is a fully independent wall lining system that can be used in all building types to upgrade the acoustic, fire and thermal performance of an existing masonry wall and to deal with any irregularities.
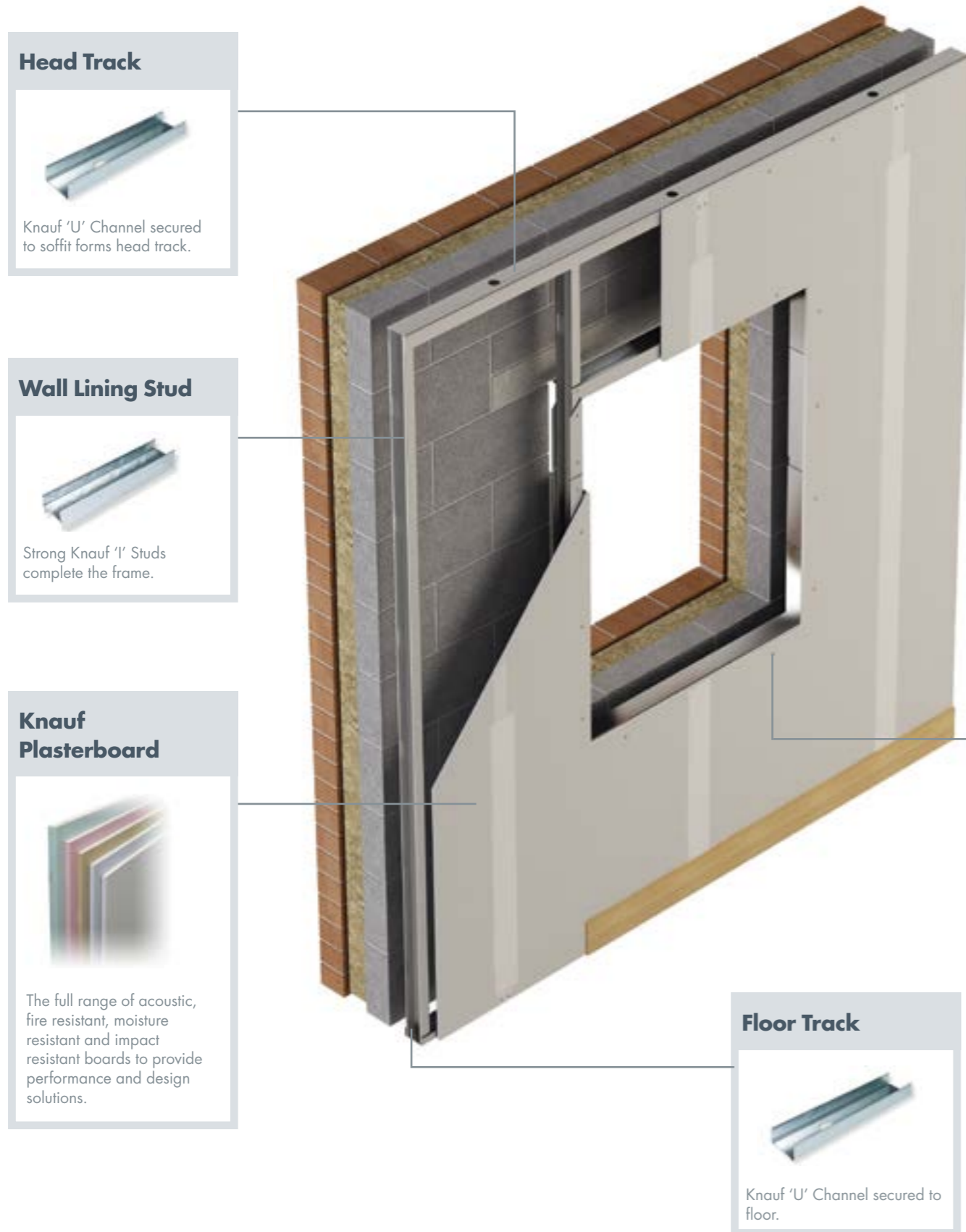
Head Track

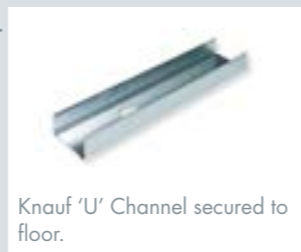Knauf 'U' Channel secured to soffit forms head track.

Wall Lining Stud

Strong Knauf 'I' Studs complete the frame.

Knauf Plasterboard

The full range of acoustic, fire resistant, moisture resistant and impact resistant boards to provide performance and design solutions.

Floor Track

Knauf 'U' Channel secured to floor.

Independent 'I' Stud

Knauf Independent 'I' Stud is particularly suited where it is important to avoid damaging or fixing back to the original wall and when a fire rating is required.
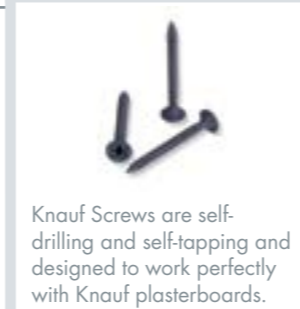
Key Features
- Can be fire rated up to 90 minutes
- No limit to stand-off distance
- As easy to install as a dry wall partition

Other Components

The Knauf Jointing range ensures that strong, high-quality joints are easy to achieve.

Use Knauf Gypsum Parge Coat to seal masonry walls, ensuring all gaps are filled, especially at junctions and corners.

Knauf Sealant seals gaps, minimises airborne sound transmission and vibrations.

Insulating Laminates

The Knauf Insulating Laminate range provides instant energy savings.

Fixings

Knauf Screws are self-drilling and self-tapping and designed to work perfectly with Knauf plasterboards.

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions. See our full guide on page 210.

Other Wall Lining Systems:

Knauf Independent 'I' Stud

Optimised Solutions

All Knauf Independent 'I' Stud systems utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system. Insisting on genuine Knauf components throughout will ensure your Knauf Independent 'I' Stud system is fully covered by our performance warranty.
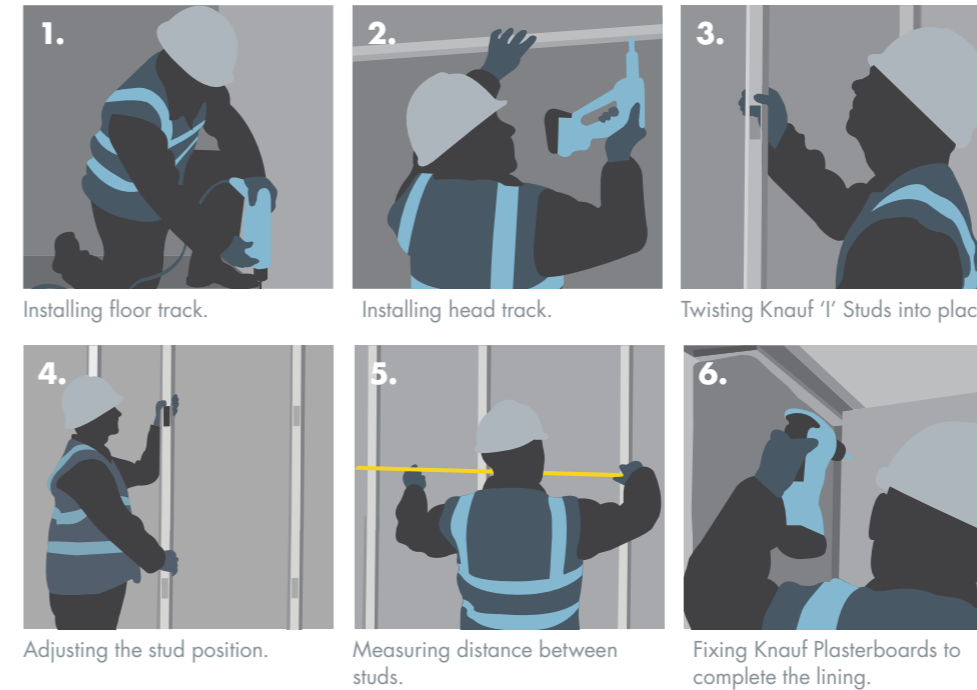
✚ Independent 'I' Stud for Healthcare Projects

Independent 'I' Stud Lining IWLC1/13	Fire*	Max Height**	Impact Duty***
1 layer of 12.5mm Knauf Fire Panel to one side of 50mm (0.55mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	30 mins	3100mm	Medium

Independent 'I' Stud Lining IWLC2/13	Fire*	Max Height**	Impact Duty***
1 layer of 15mm Knauf Fire Panel to one side of 60mm (0.55mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	60 mins	3500mm	Severe

Independent 'I' Stud Lining IWLC3/13	Fire*	Max Height**	Impact Duty***
1 layer of 15mm Knauf Fire Panel to one side of 70mm (0.70mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	60 mins	4300mm	Severe

Independent 'I' Stud Lining IWLC4/08	Fire*	Max Height**	Impact Duty***
2 layers of 12.5mm Knauf Wallboard to one side of 70mm (0.70mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	60 mins	4300mm	Severe

Independent 'I' Stud Lining IWLC5/08	Fire*	Max Height**	Impact Duty***
2 layers of 12.5mm Knauf Wallboard to one side of 92mm (0.90mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	60 mins	5700mm	Severe

Independent 'I' Stud Lining IWLC6/13	Fire*	Max Height**	Impact Duty***
2 layers of 15mm Knauf Fire Panel to one side of 70mm (0.70mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	90 mins	5700mm	Severe

Independent 'I' Stud Lining IWLC7/13	Fire*	Max Height**	Impact Duty***
2 layers of 15mm Knauf Fire Panel to one side of 146mm (0.90mm) Knauf 'I' Studs at 600mm centres forming independent lining to external steel cladding	90 mins	8000mm	Severe

* Fire resistance period for complete wall structure including external steel cladding to BS 476: Part 22: 1987 (Integrity only).
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.
*** Impact Duty rated in accordance with BS 5234: Part 2: 1992 Annexes B,C,D,E.

Knauf Independent 'I' Stud

Installation Procedures

Knauf Independent 'I' Stud linings are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

1. Installing floor track.	2. Installing head track.	3. Twisting Knauf 'I' Studs into place.
4. Adjusting the stud position.	5. Measuring distance between studs.	6. Fixing Knauf Plasterboards to complete the lining.

General

The Knauf Independent 'I' Stud system must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994

Preparation

Mark guidelines on the floor and soffit to establish the positions of floor and head tracks.

Perimeter Framing 1,2

Knauf 'U' Channels should be used for the head and base and to form any abutments and to frame openings. Bed each section onto two continuous beads of Knauf Sealant and secure with Knauf Nailable Plugs at maximum 600mm centres and 50mm from ends of channels or studs. Separate studs and channels forming the perimeter need not be joined, but should be tightly butted together.

Vertical Studs 3,4,5

Studs should be positioned within the channels to coincide with the abutments of the boards, which will be fixed later. The centres (either 300, 400 or 600mm) depend on the performance requirements. In general, there is no requirement to secure the metal at this point as this will be achieved once the boards are screw fixed.

Knauf 'I' Studs should be trimmed to within 5mm of the slab to soffit height. Extend the length of Knauf 'I' Studs where necessary by splicing the Knauf 'I' Studs with Knauf Deep Flange 'U' Channel. See detail 30, page 40 (Performer).

Angle Sections

Fix Knauf Angle Sections at external corners and reveals, where appropriate.

Insulation

Install Knauf Earthwool Acoustic Roll where required, between and behind the vertical Knauf 'I' Studs.

Support for Horizontal Joints

To back horizontal joints in outer board layers, Knauf Fixing Channel or Knauf Flat Fixing Plate should be fitted across the face of all studs secured with two Knauf Wafer Head Screws per stud or between board layers.
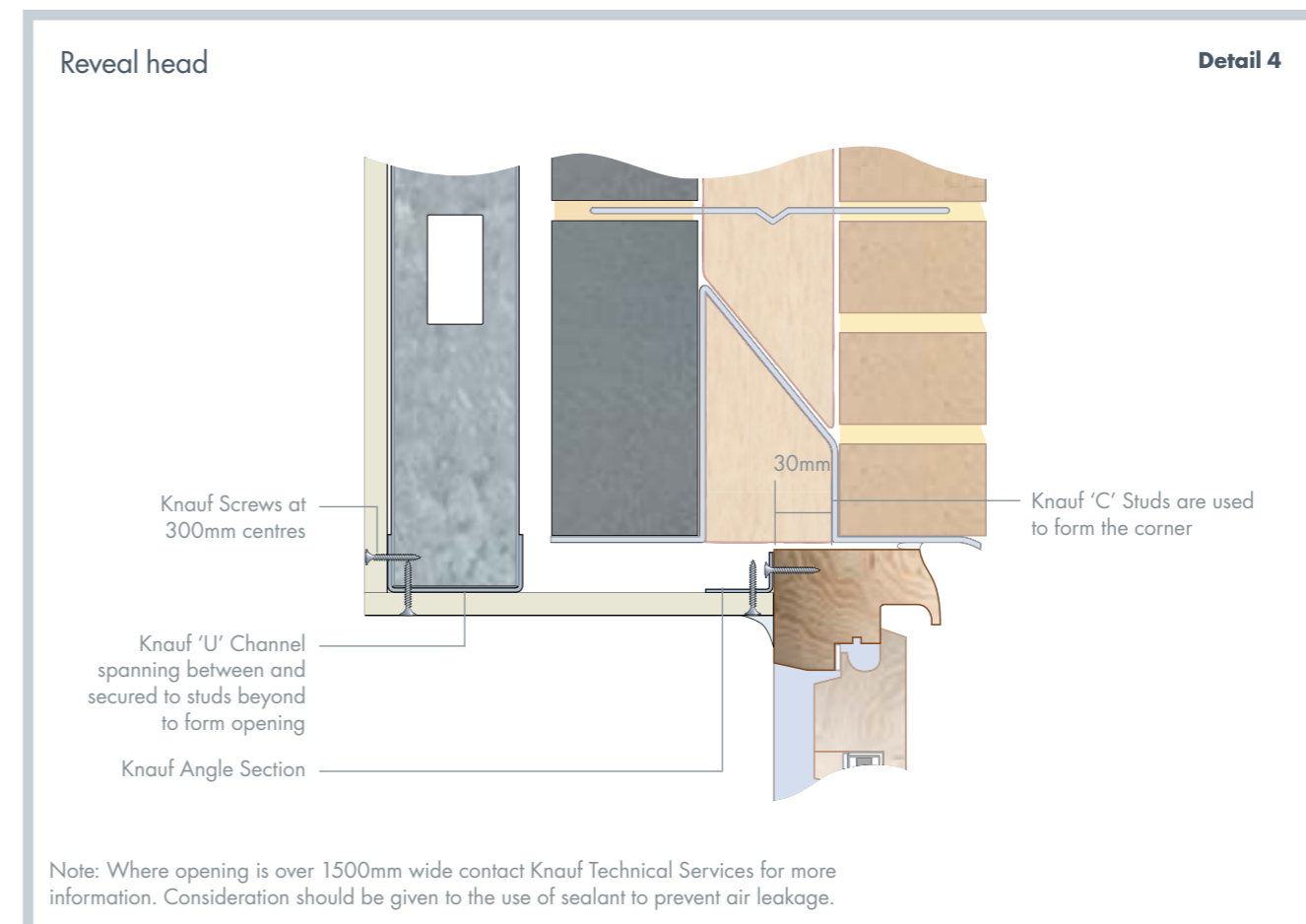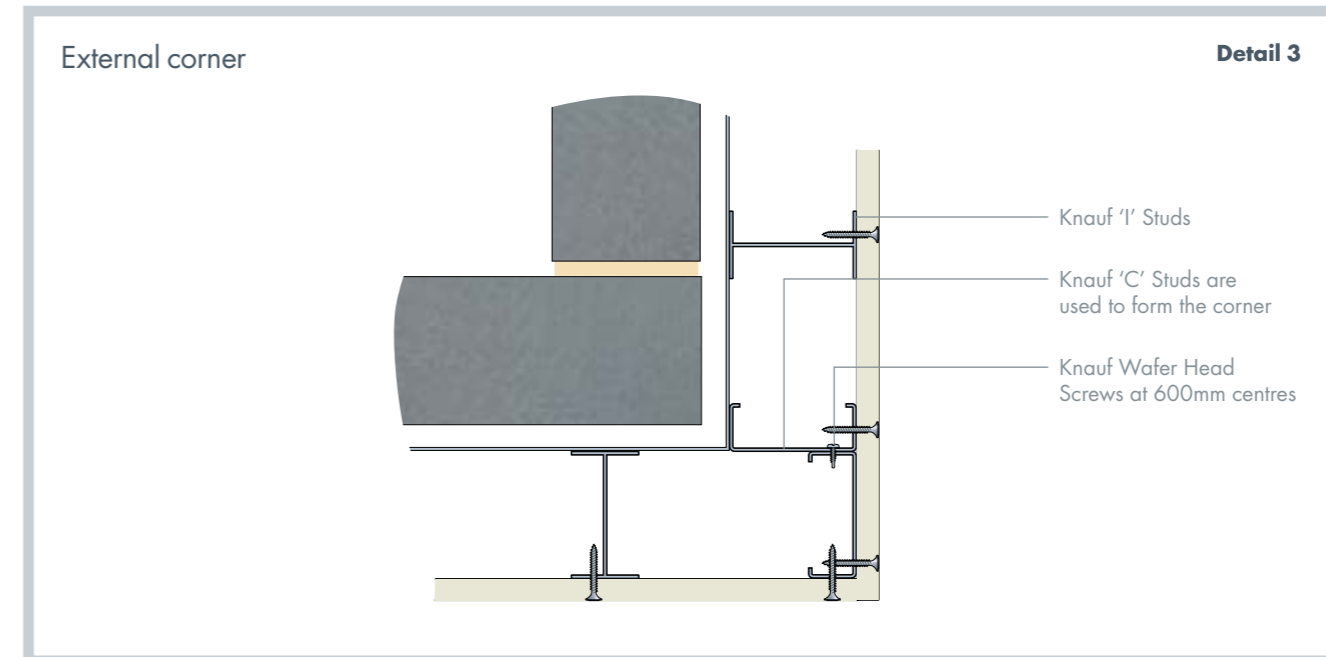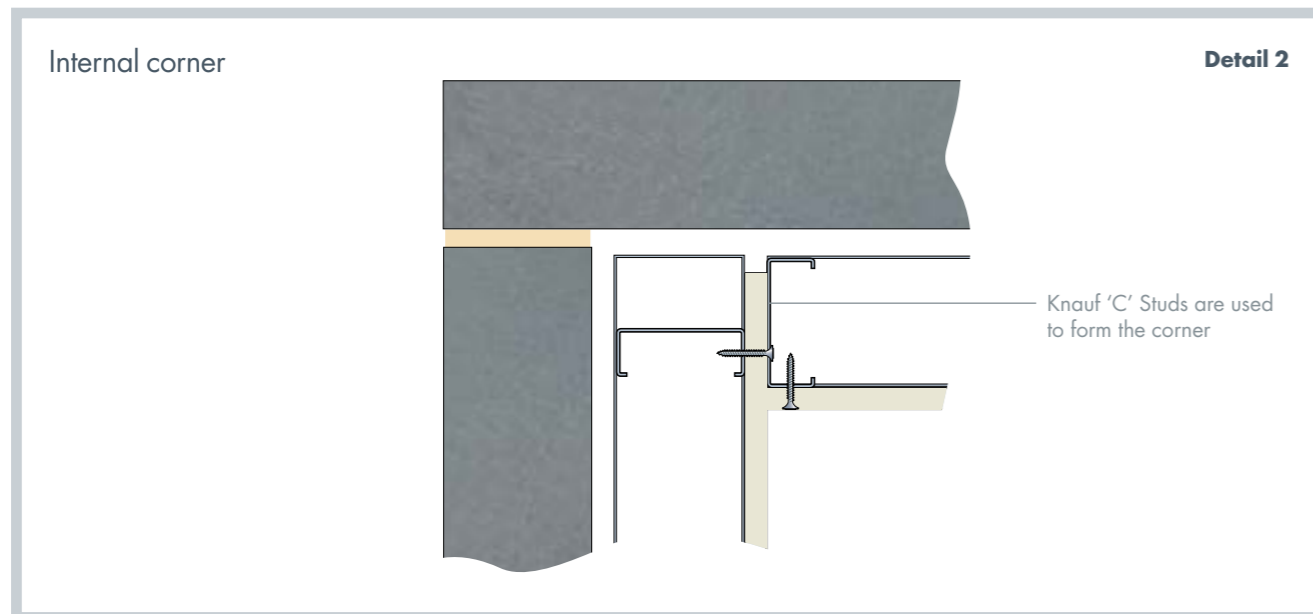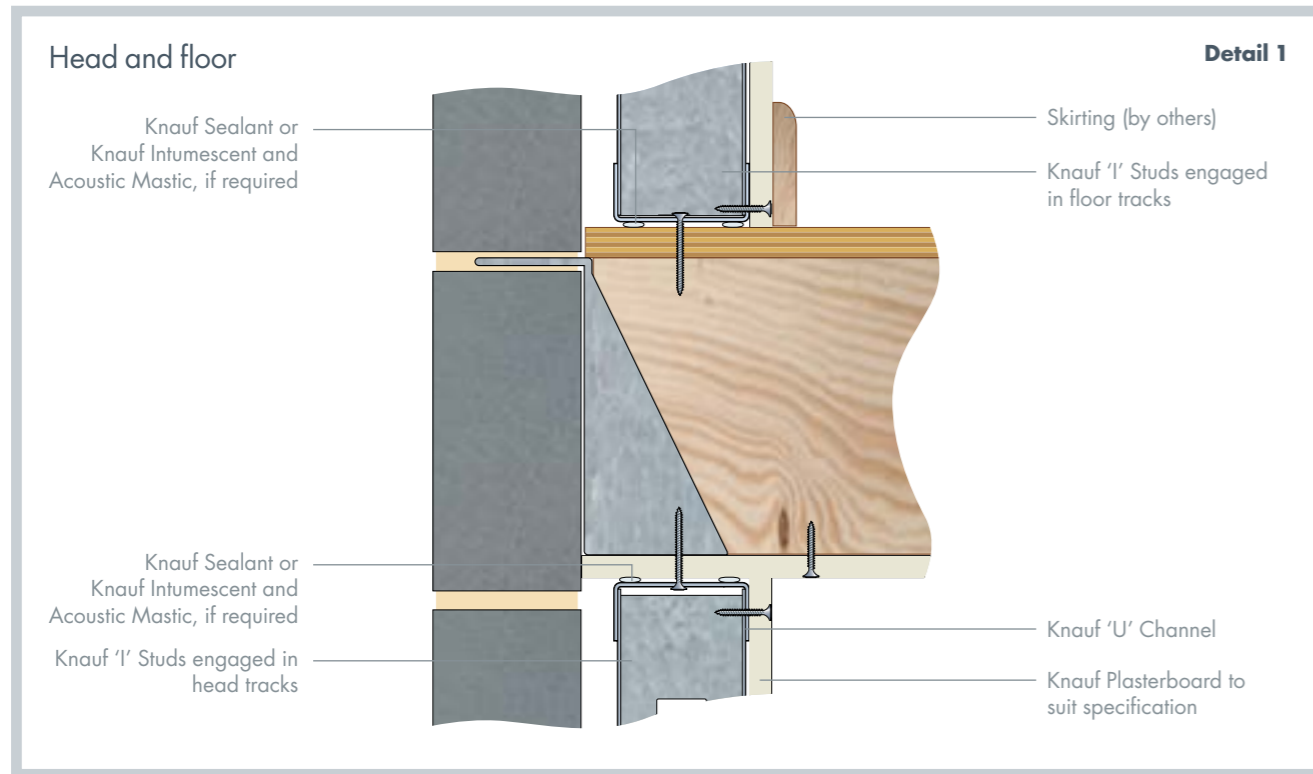
Boarding 6

All boards should be offered up to the frame with the face of the board outwards and secured with Knauf Screws at 300mm centres. Fixing centres should be reduced to 200mm at corners. Fixings should be to all horizontal and vertical members.

Knauf Independent 'I' Stud

Application Details

These details represent some of the most common design situations relevant to the Knauf Independent 'I' Stud system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Head and floor — Detail 1

Knauf Sealant or Knauf Intumescent and Acoustic Mastic, if required

Skirting (by others)

Knauf 'I' Studs engaged in floor tracks

Knauf Sealant or Knauf Intumescent and Acoustic Mastic, if required

Knauf 'I' Studs engaged in head tracks

Knauf 'U' Channel

Knauf Plasterboard to suit specification

Internal corner — Detail 2

Knauf 'C' Studs are used to form the corner

Where you see these icons in a detail, that detail is particularly relevant to that sector.

External corner — Detail 3

Knauf 'I' Studs

Knauf 'C' Studs are used to form the corner

Knauf Wafer Head Screws at 600mm centres

Reveal head — Detail 4

Knauf Screws at 300mm centres

30mm

Knauf 'C' Studs are used to form the corner

Knauf 'U' Channel spanning between and secured to studs beyond to form opening

Knauf Angle Section

Note: Where opening is over 1500mm wide contact Knauf Technical Services for more information. Consideration should be given to the use of sealant to prevent air leakage.
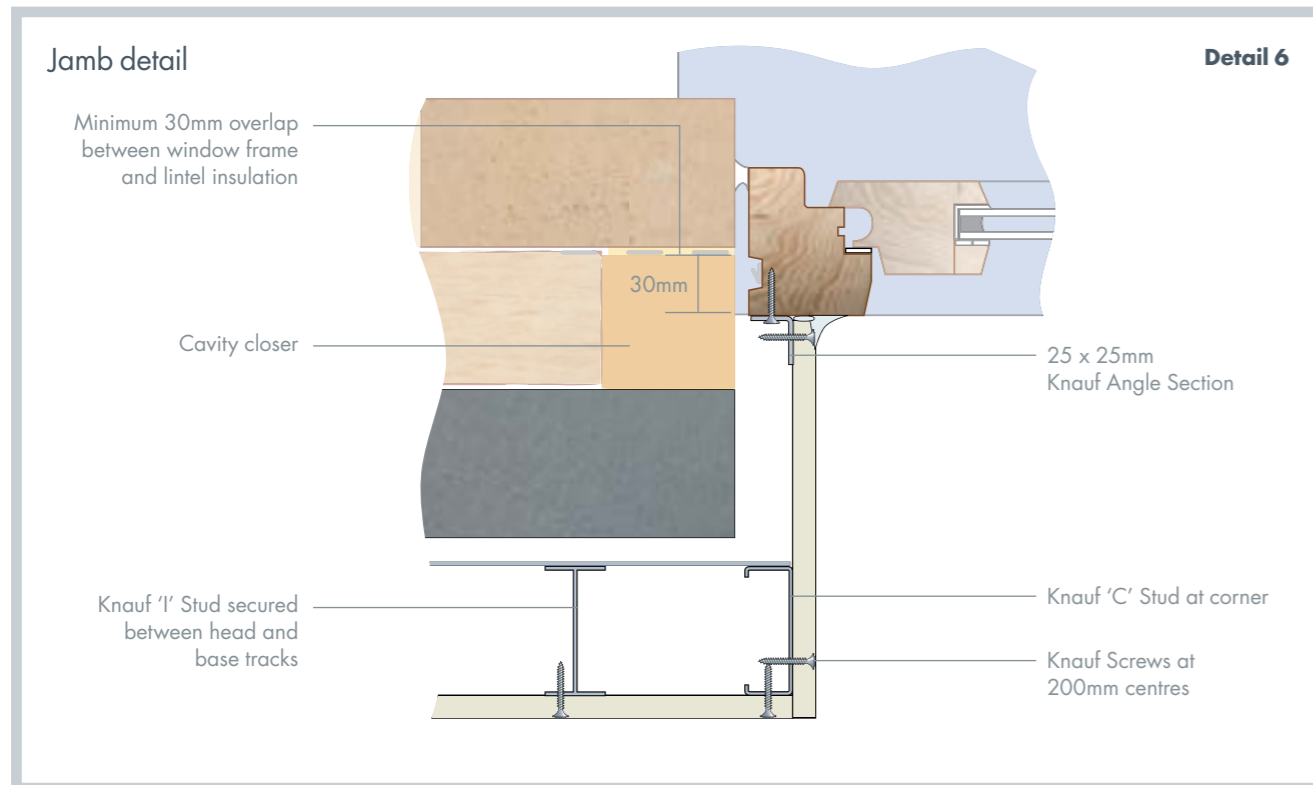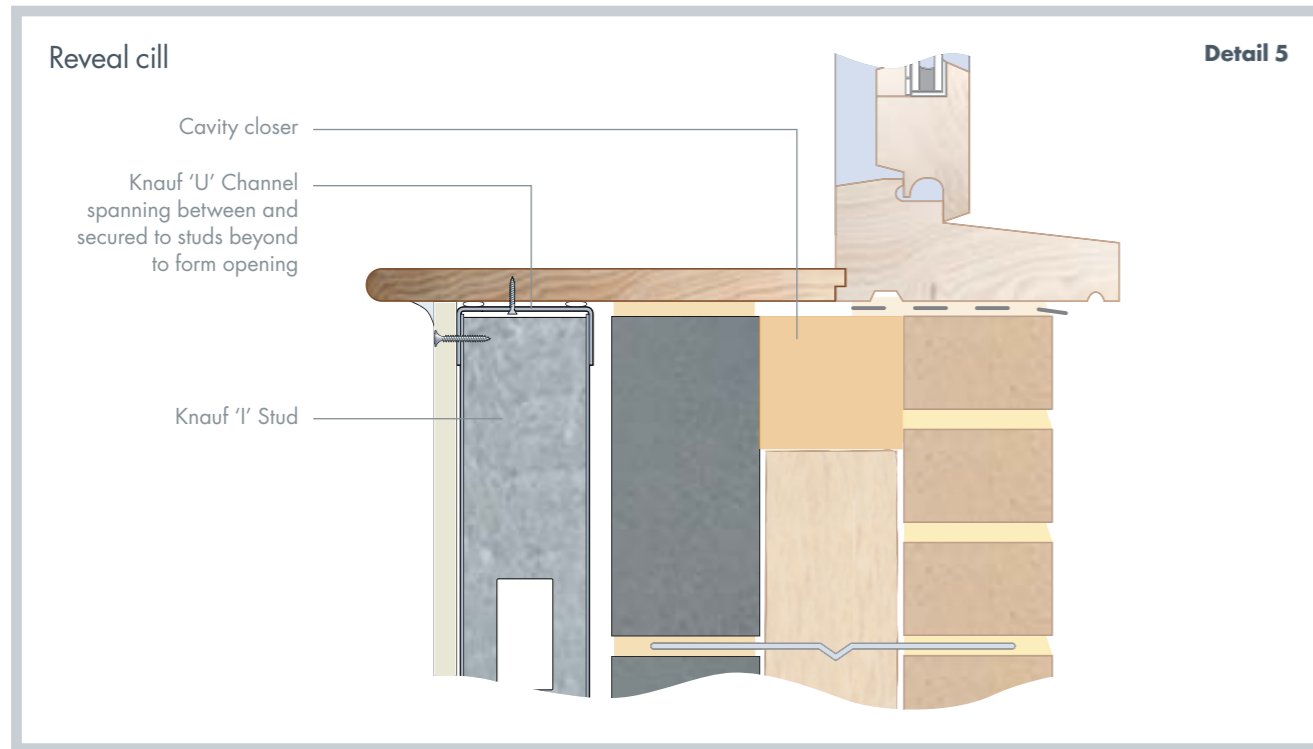
Knauf Independent 'I' Stud

Reveal cill

Detail 5

- Cavity closer
- Knauf 'U' Channel spanning between and secured to studs beyond to form opening
- Knauf 'I' Stud

Jamb detail

Detail 6

- Minimum 30mm overlap between window frame and lintel insulation
- 30mm
- Cavity closer
- Knauf 'I' Stud secured between head and base tracks
- 25 x 25mm Knauf Angle Section
- Knauf 'C' Stud at corner
- Knauf Screws at 200mm centres

Steel cladding

Detail 7

The Knauf Independent 'I' Stud wall lining system is perfect for tall steel cladding situations that require a fire rating.

- External steel cladding
- Purlin
- Knauf 'I' Stud
- Knauf 'U' Channel
- Knauf Plasterboard to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.
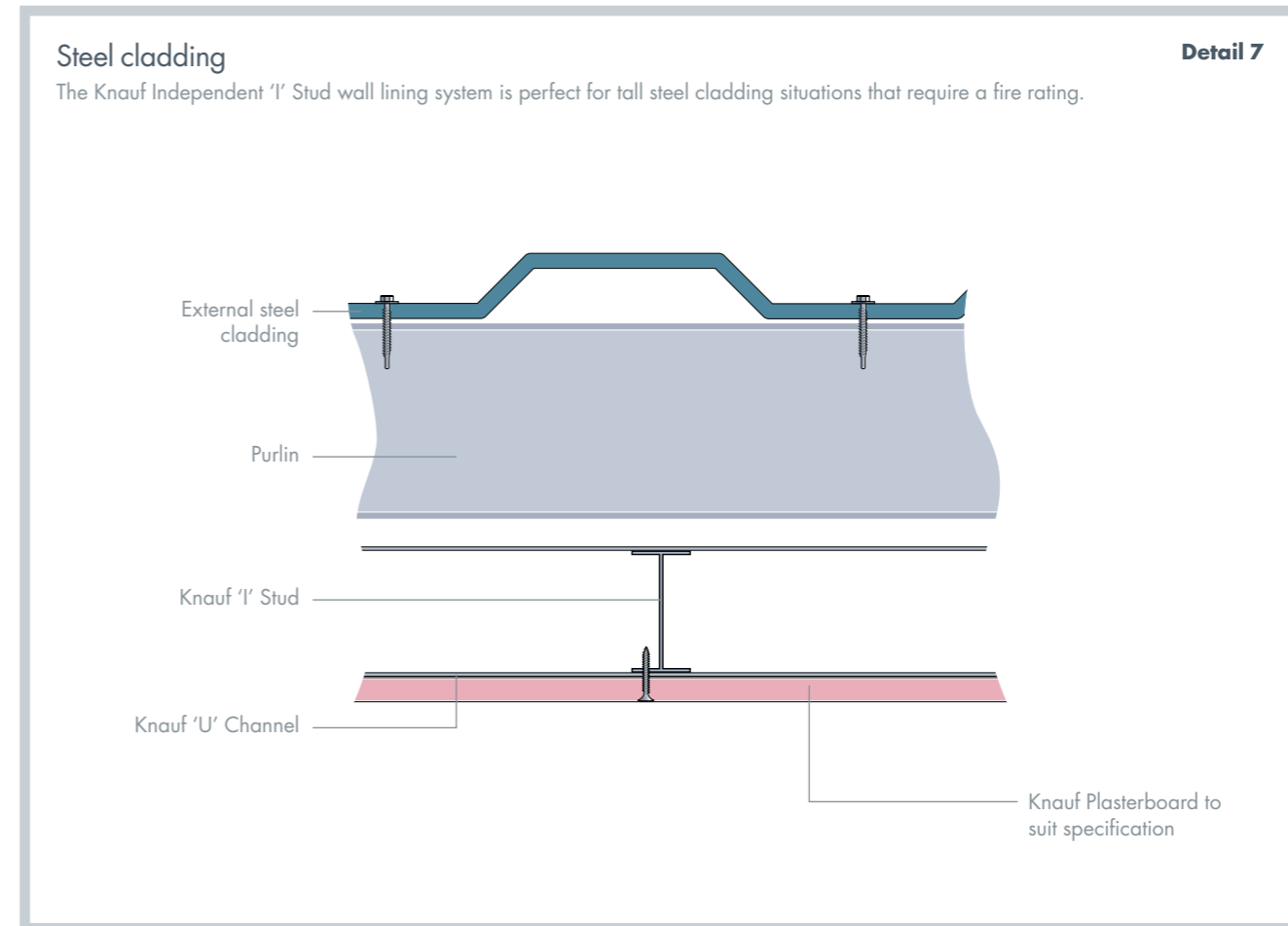
Insulating Laminates

The Knauf Insulating Laminates range is designed to instantly enhance thermal insulation, for both wall and roof linings. The range offers a fast and effective way to comply with Building Regulations and work towards the Code for Sustainable Homes.

With the additional benefits of improved airtightness and better sound insulation, Knauf Insulating Laminates provide comprehensive answers for a range of building requirements. And, once easily installed, the rapid payback period speaks for itself.

Complying with Approved Document L
All new dwelling and non-dwelling constructions, as well as a great many refurbishment projects, are required to meet Approved Document L, Domestic Technical Handbook Section 6, Technical Standard F1 or Technical Guidance Document L. Our Insulating Laminates reduce energy expenditure and help meet the Building Regulations requirements, while maximising internal usable space.

Thermal performance
The range of Knauf Insulating Laminates incorporates a 9.5mm tapered edged Knauf Wallboard bonded to a variety of different types and thicknesses of insulation to ensure the required U-value is reached for the minimum impact on room space.

How to fix
Knauf Insulating Laminates can be fixed using the Knauf Direct Bonding system to line brick or block walls, or mechanically fixed directly to timber in new, refurbished or extended residential and commercial buildings.

For roof linings, Knauf Insulating Laminates are mechanically fixed directly over rafters, with additional Knauf insulation between the rafters.

Specifying Knauf Insulating Laminates
One of the simplest ways to meet regulatory requirements and contribute towards the Code for Sustainable Homes is to specify Knauf Insulating Laminates. The range of quick-to-install Insulating Laminates provide instant cost-effective dry lining and insulation in one board.

Product facts
- CFC/HCFC free
- Zero ozone depletion potential
- Suitable for direct-fix or dot-to-dab installation
- Low global warming qotential

Code for Sustainable Homes solutions
The Code for Sustainable Homes requires progressive improvement to efficiency levels in new build housing, culminating in level 6 – carbon neutral homes – in 2016.

Upgrading a single typical residential house can reduce carbon dioxide (CO_2) output by approximately 0.5 to 3 tonnes a year. Much bigger reductions are seen with older office blocks, industrial buildings and residential towers.

Timber Frame (140mm Knauf Earthwool Frametherm 32)

Target U-value	Masonry outer leaf	Tile/timber clad outer leaf
0.15 W/m²K (Code 5/6)	75mm Knauf PIR Laminate	–
0.18 W/m²K (Code 4)	55mm Knauf XPS Laminate Plus	50mm Knauf PIR Laminate
0.21 W/m²K (Code 3)	40mm Knauf Thermal Laminate	40mm Knauf Thermal Laminate

Timber Frame (90mm Knauf Earthwool Frametherm 32)

Target U-value	Masonry outer leaf	Tile/timber clad outer leaf
0.18 W/m²K (Code 4)	75mm Knauf PIR Laminate	75mm Knauf PIR Laminate
0.21 W/m²K (Code 3)	65mm Knauf PIR Laminate	65mm Knauf PIR Laminate

Masonry Wall (partial fill with minimum 50mm PIR rigid insulation)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)
0.15 W/m²K (Code 5/6)	–	–	–	75mm Knauf PIR Laminate
0.18 W/m²K (Code 4)	75mm Knauf PIR Laminate	75mm Knauf PIR Laminate	75mm Knauf PIR Laminate	55mm Knauf XPS Laminate Plus
0.21 W/m²K (Code 3)	55mm Knauf XPS Laminate Plus	55mm Knauf XPS Laminate Plus	45mm Knauf XPS Laminate Plus	40mm Knauf Thermal Laminate

Masonry Wall (full fill with minimum 100mm Knauf Earthwool DriTherm Cavity Slab)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)
0.15 W/m²K (Code 5/6)	–	–	75mm Knauf PIR Laminate	75mm Knauf PIR Laminate
0.18 W/m²K (Code 4)	65mm Knauf PIR Laminate	65mm Knauf PIR Laminate	75mm Knauf PIR Laminate	55mm Knauf XPS Laminate Plus
0.21 W/m²K (Code 3)	55mm Knauf XPS Laminate Plus	55mm Knauf XPS Laminate Plus	55mm Knauf XPS Laminate Plus	40mm Knauf Thermal Laminate

Insulating Laminates

Part L1A and Part L2A solutions for new build

Approved Documents L1A and L2A set out the Building Regulation requirements for new buildings. Further details on these documents and methods of compliance are shown on pages 288 and 296.

Part L1B and Part L2B solutions for refurbishment

Approved Documents L1B and L2B set out the Building Regulation requirements for refurbishment in buildings. Further details on these documents and methods of compliance are shown on pages 289 and 297.

Timber Frame (140mm Earthwool FrameTherm 32)

Target U-value	Masonry outer leaf	Tile/timber clad outer leaf
0.25 W/m²K (L1A)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.30 W/m²K (L1A)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.35 W/m²K (L1B)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate

Timber Frame (90mm Earthwool FrameTherm 32)

Target U-value	Masonry outer leaf	Tile/timber clad outer leaf
0.25 W/m²K (L1A)	45mm Knauf XPS Laminate Plus	55mm Knauf XPS Laminate Plus
0.30 W/m²K (L1A)	30mm Knauf Thermal Laminate	40mm Knauf Thermal Laminate
0.35 W/m²K (L1B)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate

Masonry Wall (partial fill with minimum 50mm PIR rigid insulation)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)
0.25 W/m²K (L1A)	40mm Knauf Thermal Laminate	30mm Knauf Thermal Laminate	30mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.30 W/m²K (L1A)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.35 W/m²K (L1B)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate

Masonry Wall (partial fill with minimum 50mm PIR rigid insulation)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)
0.25 W/m²K (L1A)	40mm Knauf Thermal Laminate	30mm Knauf Thermal Laminate	30mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.30 W/m²K (L1A)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.35 W/m²K (L1B)	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate

Solid Masonry Wall (Knauf Independent 'I' Stud with 70mm Knauf Rocksilk Flexible Slab between studs)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)	Brick (0.77)
0.27 W/m²K (Scotland)	55mm Knauf PIR Laminate	55mm Knauf XPS Laminate Plus	55mm Knauf XPS Laminate Plus	40mm Knauf Thermal Laminate	50mm Knauf PIR Laminate
0.30 W/m²K (England)	55mm Knauf XPS Plus	45mm Knauf XPS Laminate Plus	40mm Knauf XPS Laminate Plus	40mm Knauf Thermal Laminate	55mm Knauf XPS Laminate Plus
0.35 W/m²K (England)	40mm Knauf Thermal XPS Plus	40mm Knauf Thermal Laminate	30mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	35mm Knauf XPS Laminate Plus

Solid Masonry Wall (direct bond lining)

Target U-value	Dense block (1.13)	Medium block (0.51)	Lightweight aggregate (0.34)	Lightweight aircrete (0.11)	Brick (0.77)
0.27 W/m²K (Scotland)	–	–	–	50mm Knauf PIR Laminate	–
0.30 W/m²K (England)	–	75mm Knauf PIR Laminate	65mm Knauf PIR Laminate	55mm Knauf XPS Laminate Plus	75mm Knauf PIR Laminate
0.35 W/m²K (England)	65mm Knauf PIR Laminate	65mm Knauf PIR Laminate	65mm Knauf PIR Laminate	40mm Knauf XPS Laminate Plus	65mm Knauf PIR Laminate

Generate specifications at **www.knauf.co.uk**

Generate specifications at **www.knauf.co.uk**

Soffit Linings

Soffit linings have to perform many tasks, from providing fire resistance and hiding services above, to providing acoustic control.

Together with all these tasks a soffit lining needs to be strong, both to resist cracking from movement and because any failure at height is dangerous, particularly in a public environment.

Knauf soffit linings are manufactured from high-quality, system-tested components that are designed to work together under the most demanding circumstances.

Knauf C-Form Suspended Ceilings

The Knauf C-Form Suspended Ceiling system uses the minimum number of different components and is extremely easy and quick to install. The system is very strong and perfect for larger ceiling areas.
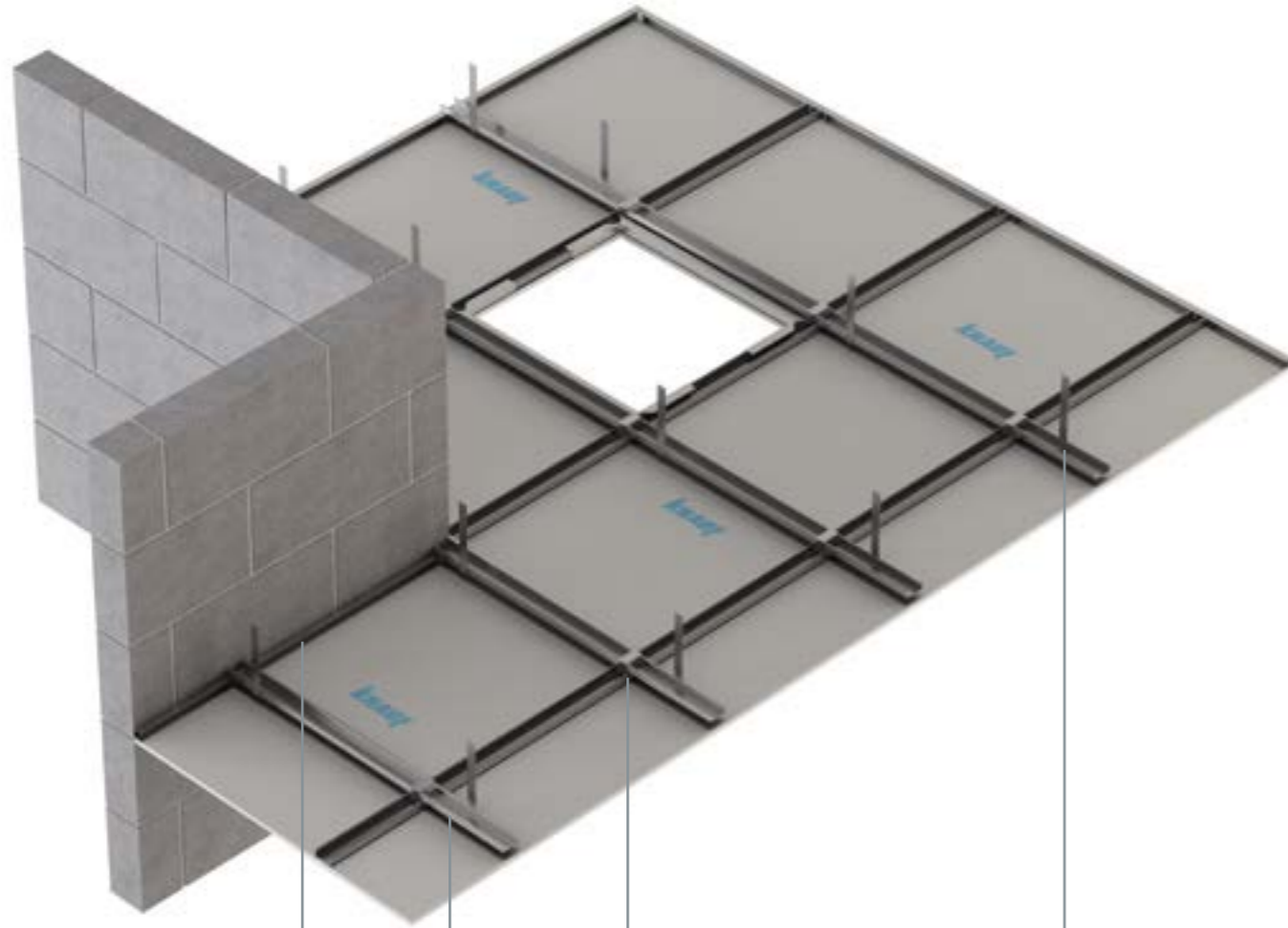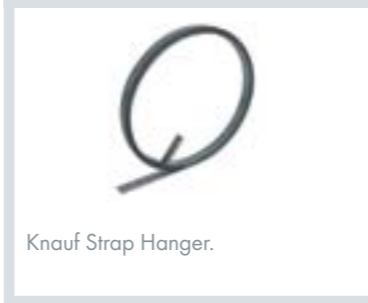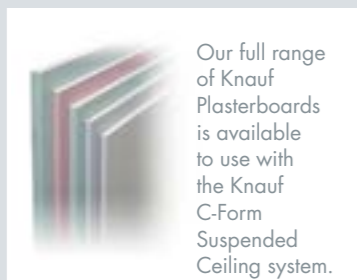
Metal Components

Knauf 'U' Channel – Perimeter Support.

Plasterboard

Our full range of Knauf Plasterboards is available to use with the Knauf C-Form Suspended Ceiling system.

Metal Components

The Knauf Intersection Connector is used to join the upper and lower Knauf 'C' Channels.

Metal Components

Knauf 'C' Channel forms the main suspension grid.

Metal Hangers

Knauf Strap Hanger.

Fixings

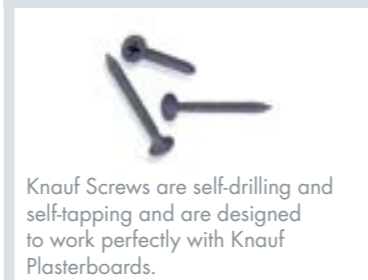Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Generate specifications at **www.knauf.co.uk**

C-Form Suspended Ceiling

The Knauf C-Form Suspended Ceiling system can provide up to 2 hours fire protection and easily accommodates changes in level.

Key Features

- Recommended for large ceiling areas and long spans
- Recommended when creating deep voids
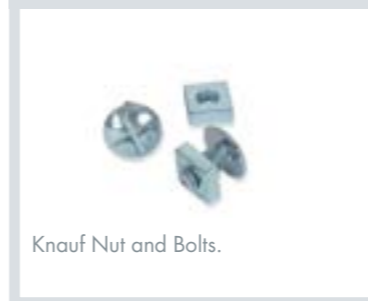- Extremely strong and resistant to movement

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions.

See our full guide on page 210.

Fixings

Knauf Nut and Bolts.

Metal Components

The Knauf 'C' Channel Connector is used to extend Knauf 'C' Channels.

Knauf Soffit Cleat.

Knauf Angle Section is used as Metal Hanger.

Metal Components

Use Knauf Universal Bracket as an alternative to Knauf Strap Hanger for shallow voids.

Our range of Ceiling Solutions includes:

Knauf C-Form Suspended Ceilings

Fast track to your optimum solution

1 Choose your sector

🏠 Residential   🏢 Commercial

📚 Education   ➕ Healthcare

2 Find your performance levels

- **Fire**
- **Loading**
- **Dimensions**

3 Find your solution

If your requirements fall outside these please contact Knauf Technical Services.

Knauf C-Form Optimised Solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project. Knauf Technical Services: 01795 416259.

Performance you can trust

All Knauf C-Form Suspended Ceilings utilise high-quality, purpose- designed Knauf Plasterboards, Knauf Metal Components and Knauf Accessories, tested and warranted to work together as a whole system.

🏠📚🏢 **Fire Protection to Floor or Roof Cavity above**

Soffit Lining CF1/08	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Wallboard, fixed to the underside of a Knauf C-Form Ceiling system, with 100mm Knauf Earthwool Acoustic Roll within cavity in the void	30 mins	1200mm	1200mm	450mm	19.6

Soffit Lining CF2/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 15mm Knauf Fire Panel, fixed to the underside of a Knauf C-Form Ceiling system, with 30mm Knauf Universal Slab RS45 in the void	60 mins	900mm	900mm	450mm	27.4

* Fire resistance period in accordance with BS 476: Part 22: 1987.
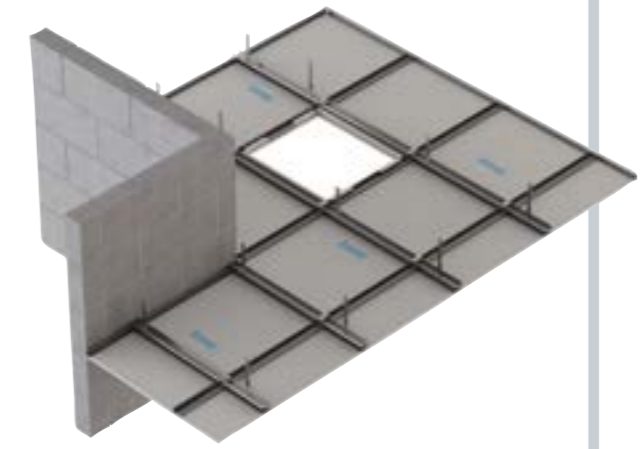
Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

🏠📚🏢 **Fire Protection to Steel Beams supporting Concrete Floors**

Soffit Lining CF3/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system	30 mins	1200mm	1200mm	450mm	12.0

Soffit Lining CF4/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system	60 mins	1200mm	1200mm	450mm	22.0

* Fire resistance period in accordance with BS 476: Part 23: 1987.

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

🏠📚🏢 **Fire Protection to Timber Floor Construction**

Soffit Lining CF5/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system	30 mins	1200mm	1200mm	450mm	12.0

Soffit Lining CF6/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system	60 mins	1200mm	1200mm	450mm	22.0

Soffit Lining CF7/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
3 layers of 15mm Knauf Fire Panel fixed to the underside of a Knauf C-Form Ceiling system, with 40mm Knauf Universal Slab RS45 in the void	120 mins	900mm	900mm	450mm	39.8

* Fire resistance period in accordance with BS 476: Part 21: 1987.

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Ceiling System Loading Information

The addition of services, ventilation and lighting can add significant loading to the ceiling system if the additional mass is to be borne by the ceiling. Please check the table below to see if the support channels need reducing to ensure the system is adequately specified.

C-Form ceiling	Total load including weight of ceiling system (kg/m²) – this should include any additional lighting/ventilation system							
	15	20	25	30	35	40	45	50
Suspension Hanger centres (mm)	1200	1200	1200	900	900	900	600	1000
Upper 'C' Channel centres (mm)	1200	1200	1000	900	900	900	600	600
Lower 'C' Channel centres (mm)	450	450	450	450	450	450	450	450

Knauf C-Form Suspended Ceilings

Installation Procedures
Knauf Ceiling systems are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General
The Knauf C-Form Suspended Ceiling system must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

When creating an airtight space, methods for the reduction of potential 'ceiling lift' should be considered. For further advice contact Knauf Technical Services.

Perimeter Fixing 1
20mm Knauf 'U' Channel – Perimeter Support Channels should be secured to the walls at the required heights, at maximum 600mm centres and 50mm from the ends of channels. The top of the channel should align with the underside of the upper Knauf 'C' Channel.

Knauf 'U' Channel – Perimeter Support channels forming the perimeter do not need to be mechanically fixed together.

Suspension 2
Select the fixing centres suited to the ceiling loading. See page 121.

Fix Knauf Soffit Cleats to the structural soffit with suitable fixings. Choose either Knauf Angle Section or the flexible Knauf Strap Hanger and fix to the Knauf Soffit Cleat. When creating a shallow ceiling void, Knauf Universal Brackets can be used.

Upper 'C' Channels 3
The centres of the upper Knauf 'C' Channels depend on the loading requirements. See page 121.

Knauf Angle Section or Knauf Strap Hanger should be fixed staggered to either side of the Knauf 'C' Channel with two Knauf Wafer Head Jackpoint Screws. The upper 'C' Channels should lie on the upper flange of the 20mm Knauf 'U' Channel – Perimeter Support.

Lower 'C' Channels 4,5,6
The lower Knauf 'C' Channels should be positioned at 450mm centres within the perimeter channels to coincide with the abutments of the boards, which will be fixed later.

Connect the lower 'C' Channels to the upper 'C' Channels by means of Knauf Channel Intersection Connectors. These connectors fit over the upper 'C' Channels and snap-fix into the lower 'C' Channels.

Insulation
Once the upper and lower Knauf 'C' Channels have been connected and before the boarding has started, the specified Knauf insulation should be inserted above the upper 'C' Channels, if required. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or between different rolls.

Movement Control Joints
Create movement control joints where ceiling runs exceed 10m, coinciding where possible with movement joints in the surrounding structure.

Boarding 7,8
All boards should be offered up to the ceiling grid with the decorative face of the boards outwards and secured with Knauf Screws at maximum 230mm centres. Fixing centres should be reduced to 150mm at ends and perimeter.

Boards should be mounted at 90° to the direction of the ceiling channels.

Once Knauf Plasterboards have been installed, spray apply Knauf Readymix plaster to finish ceiling ready for decoration.
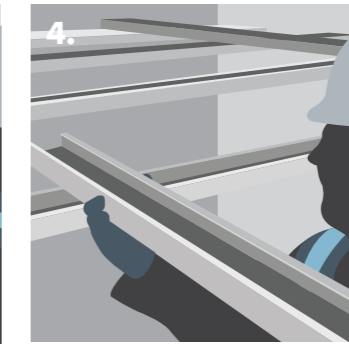
Generate specifications at **www.knauf.co.uk**
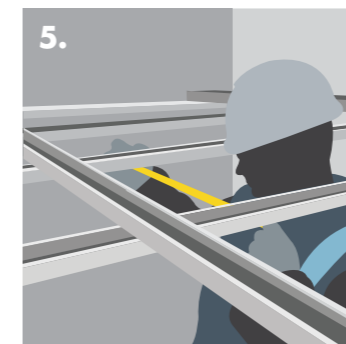
1. Fixing Knauf Perimeter Channel.
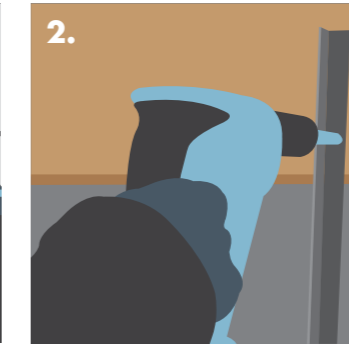
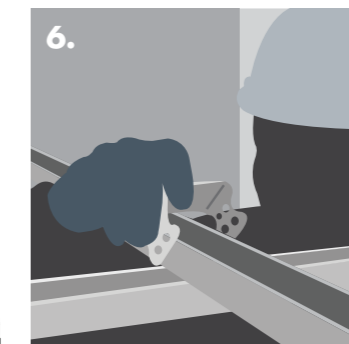**2.** Fixing Knauf Angle Section as hanger.

3. Fixing Knauf Angle Section to upper Knauf 'C' Channel.
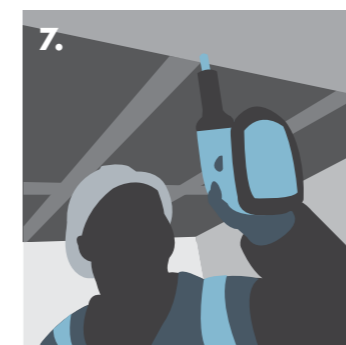
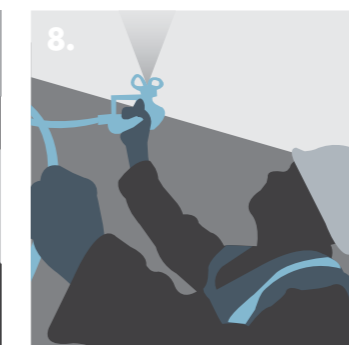**4.** Positioning lower Knauf 'C' Channel into Knauf Perimeter Channel.

5. Measuring the distance between lower Knauf 'C' Channels.

6. Connecting lower and upper Knauf 'C' Channel with Knauf Channel Intersection Connectors.

7. Screw fixing the Knauf Plasterboard to the lower Knauf 'C' Channels.

8. Spray-applied Knauf Readymix Plasters make finishing ceilings safe, easy and fast.
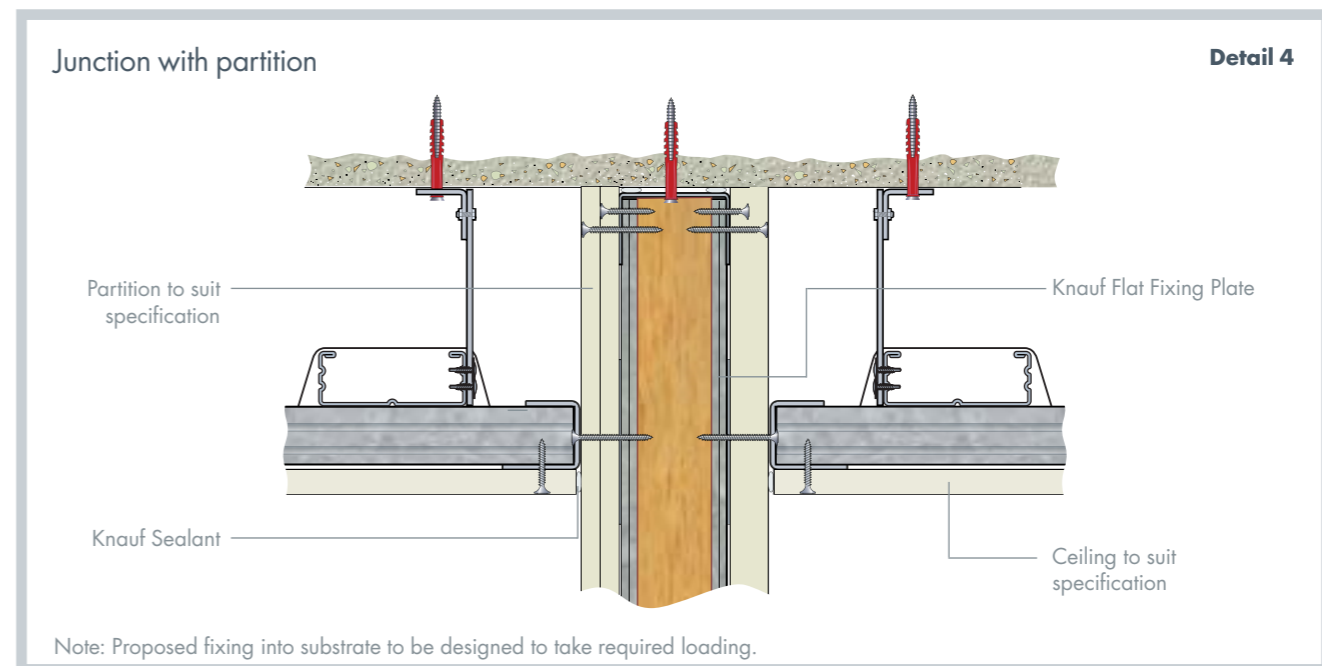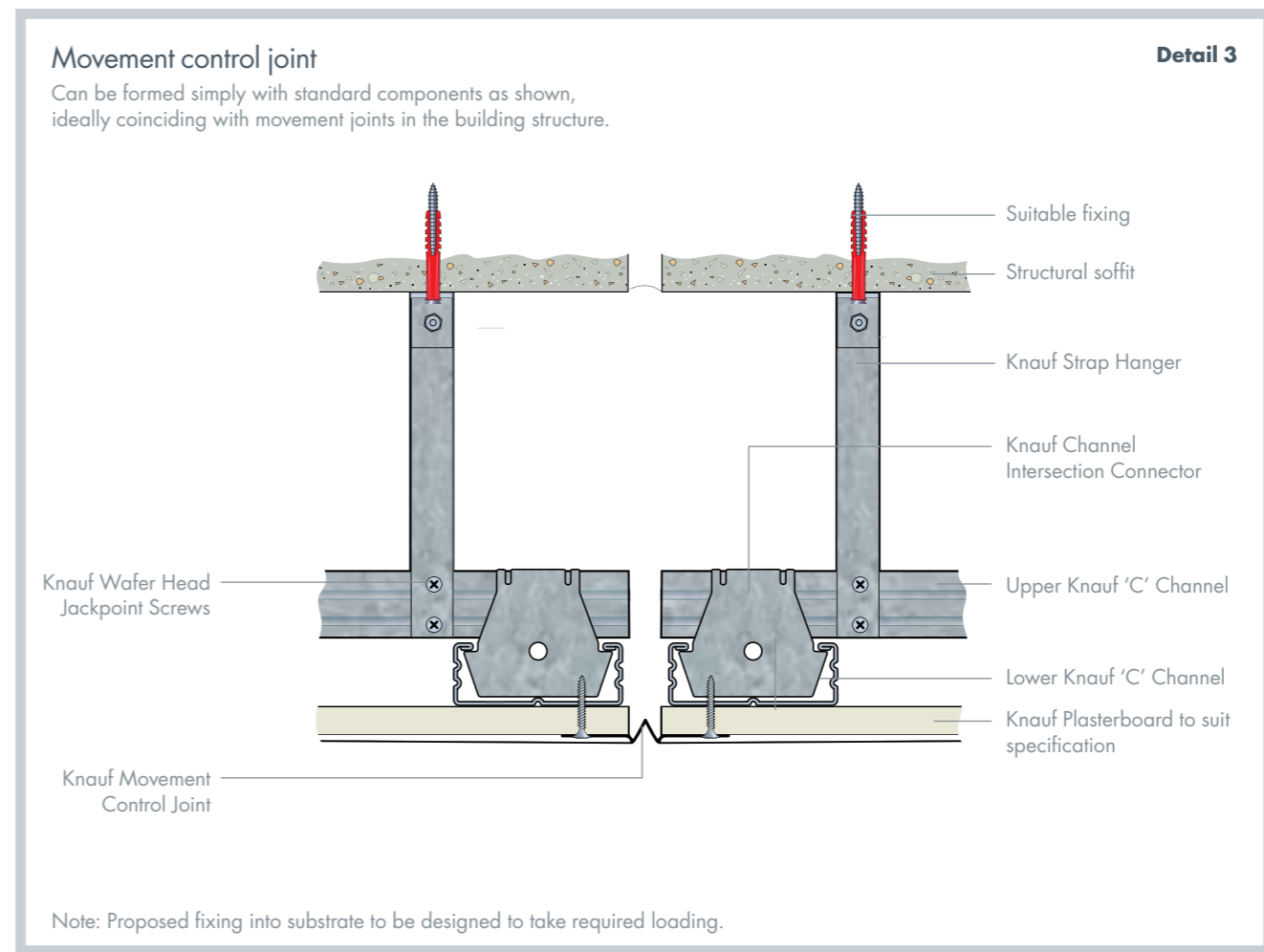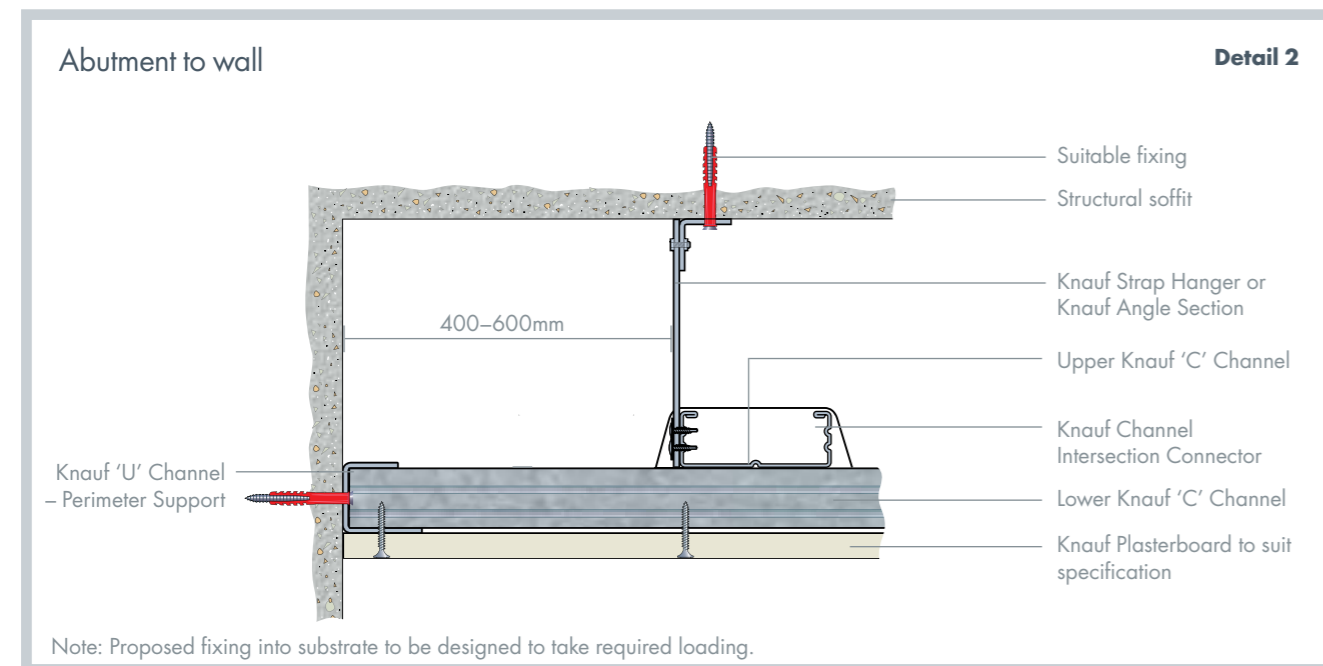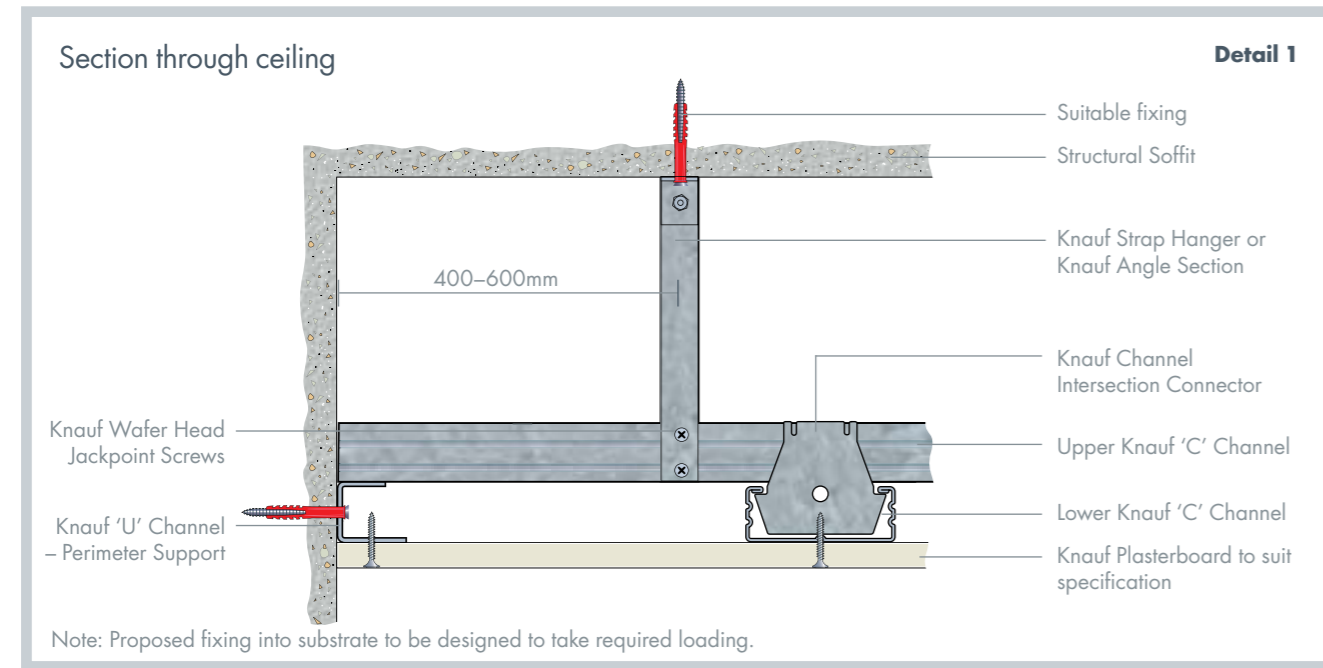
Knauf Training Courses
We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
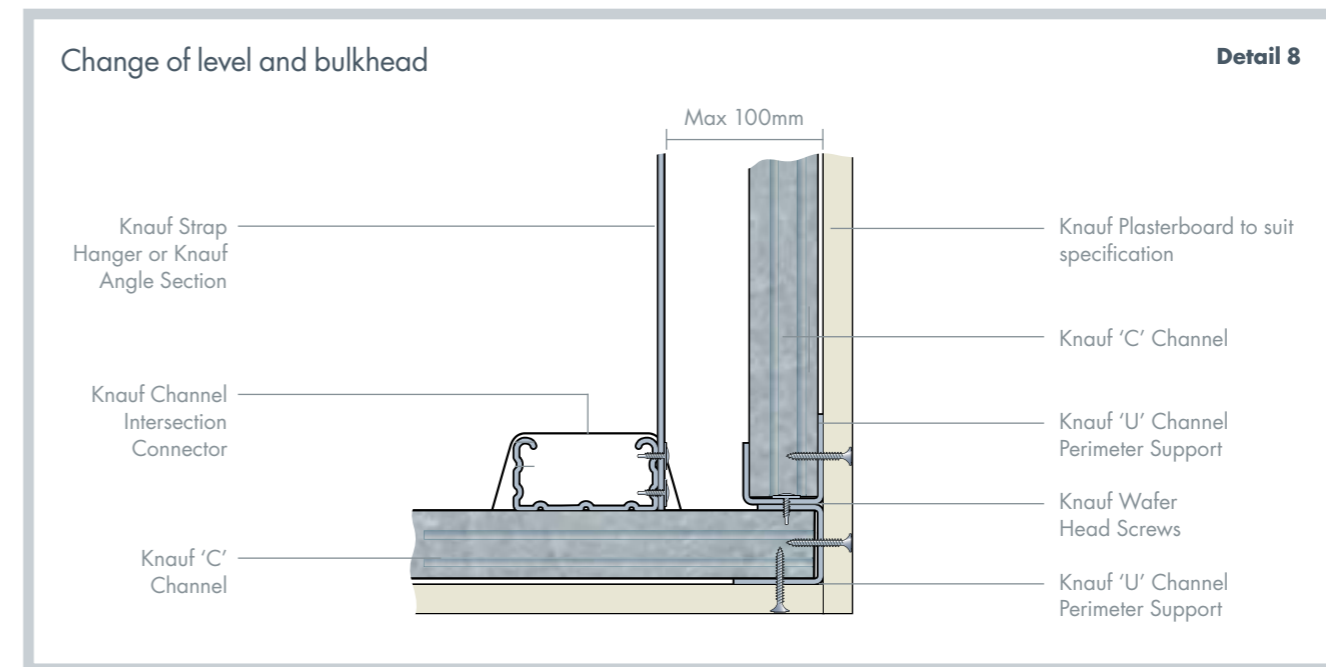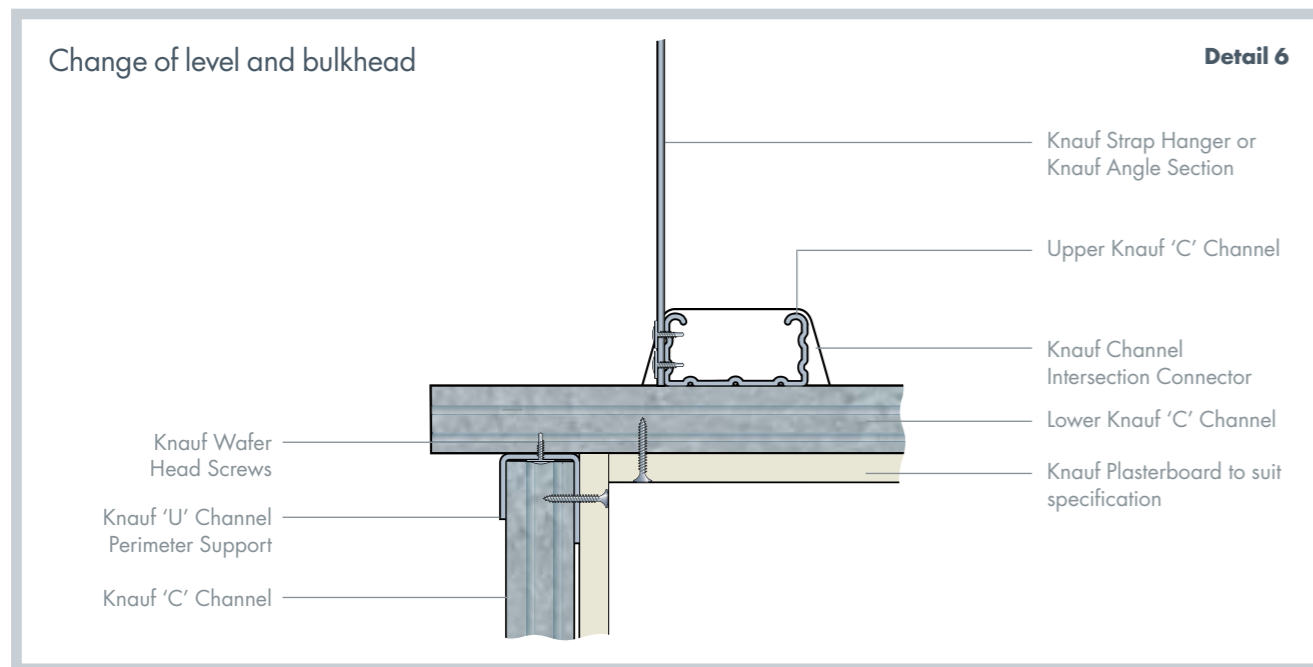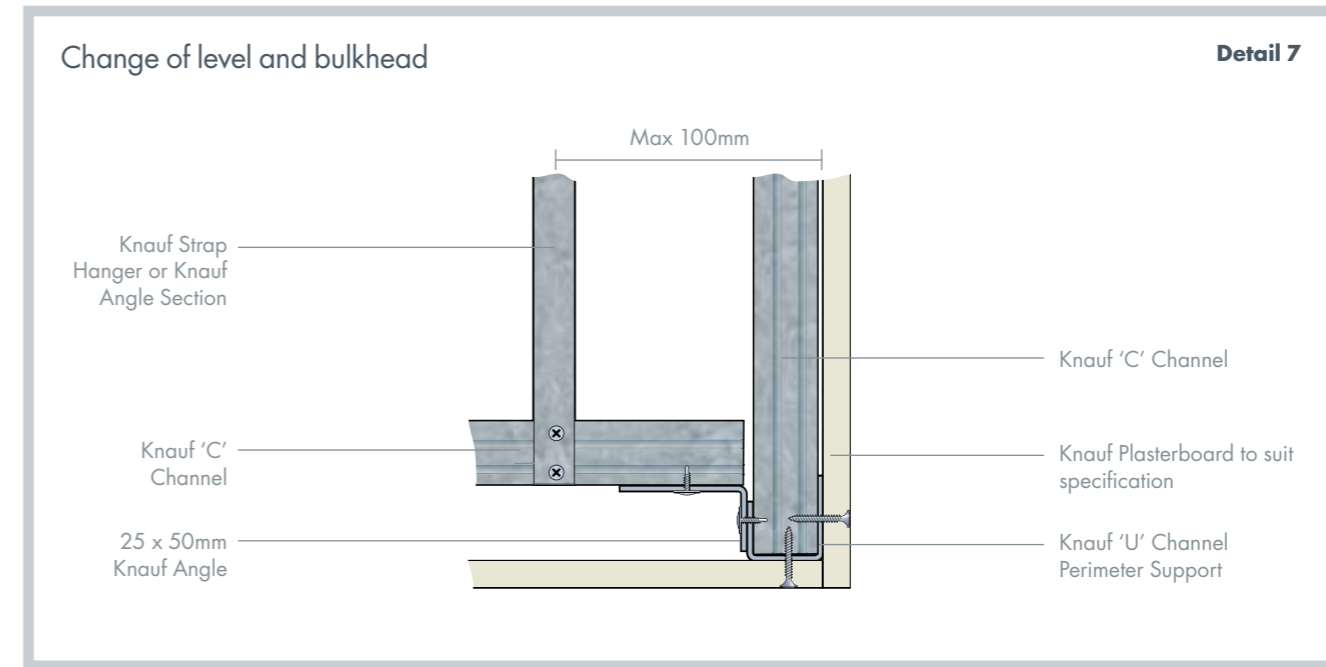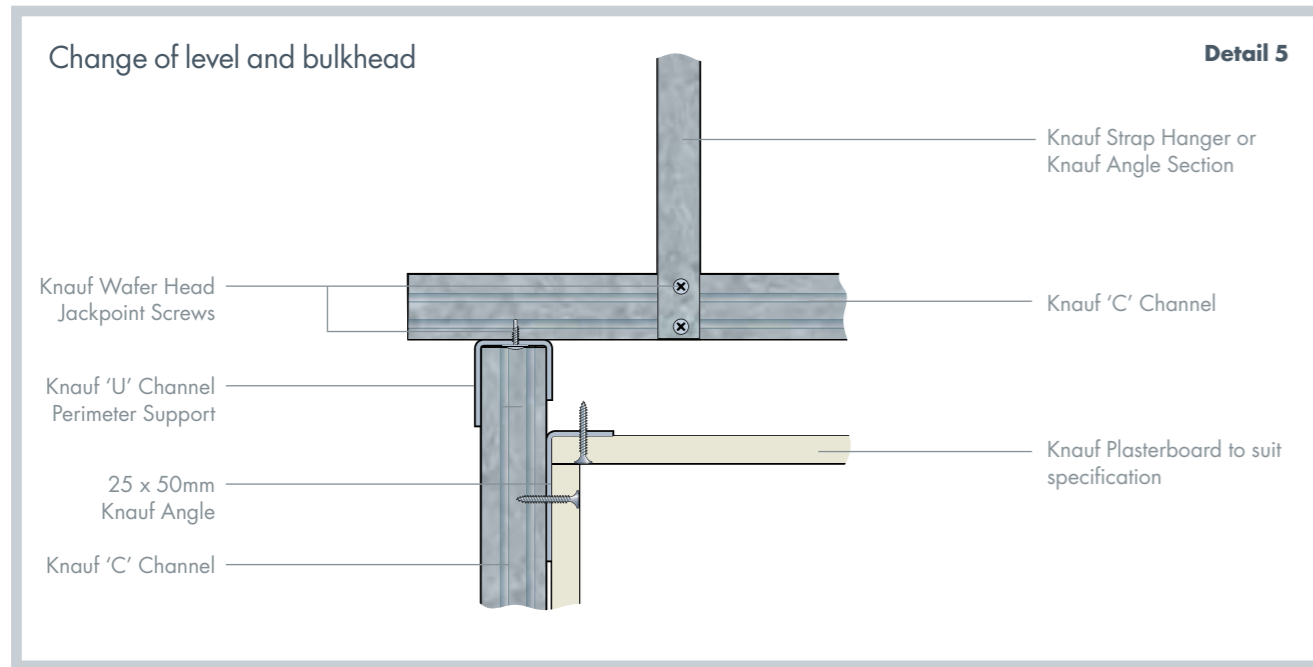
Knauf C-Form Suspended Ceilings

Application Details

These details represent some of the most common design situations relevant to the Knauf C-Form Suspended Ceiling system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Section through ceiling
Detail 1

- Suitable fixing
- Structural Soffit
- Knauf Strap Hanger or Knauf Angle Section
- Knauf Channel Intersection Connector
- Upper Knauf 'C' Channel
- Lower Knauf 'C' Channel
- Knauf Plasterboard to suit specification
- 400–600mm
- Knauf Wafer Head Jackpoint Screws
- Knauf 'U' Channel – Perimeter Support

Note: Proposed fixing into substrate to be designed to take required loading.

Abutment to wall
Detail 2

- Suitable fixing
- Structural soffit
- Knauf Strap Hanger or Knauf Angle Section
- Upper Knauf 'C' Channel
- Knauf Channel Intersection Connector
- Lower Knauf 'C' Channel
- Knauf Plasterboard to suit specification
- 400–600mm
- Knauf 'U' Channel – Perimeter Support

Note: Proposed fixing into substrate to be designed to take required loading.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Movement control joint
Detail 3

Can be formed simply with standard components as shown, ideally coinciding with movement joints in the building structure.

- Suitable fixing
- Structural soffit
- Knauf Strap Hanger
- Knauf Channel Intersection Connector
- Upper Knauf 'C' Channel
- Lower Knauf 'C' Channel
- Knauf Plasterboard to suit specification
- Knauf Wafer Head Jackpoint Screws
- Knauf Movement Control Joint

Note: Proposed fixing into substrate to be designed to take required loading.

Junction with partition
Detail 4

- Partition to suit specification
- Knauf Flat Fixing Plate
- Knauf Sealant
- Ceiling to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Knauf C-Form Suspended Ceilings

Change of level and bulkhead

Detail 5

- Knauf Strap Hanger or Knauf Angle Section
- Knauf Wafer Head Jackpoint Screws
- Knauf 'C' Channel
- Knauf 'U' Channel Perimeter Support
- 25 x 50mm Knauf Angle
- Knauf Plasterboard to suit specification
- Knauf 'C' Channel

Change of level and bulkhead

Detail 7

- Max 100mm
- Knauf Strap Hanger or Knauf Angle Section
- Knauf 'C' Channel
- Knauf 'C' Channel
- Knauf Plasterboard to suit specification
- 25 x 50mm Knauf Angle
- Knauf 'U' Channel Perimeter Support

Change of level and bulkhead

Detail 6

- Knauf Strap Hanger or Knauf Angle Section
- Upper Knauf 'C' Channel
- Knauf Channel Intersection Connector
- Lower Knauf 'C' Channel
- Knauf Wafer Head Screws
- Knauf Plasterboard to suit specification
- Knauf 'U' Channel Perimeter Support
- Knauf 'C' Channel

Change of level and bulkhead

Detail 8

- Max 100mm
- Knauf Strap Hanger or Knauf Angle Section
- Knauf Plasterboard to suit specification
- Knauf 'C' Channel
- Knauf Channel Intersection Connector
- Knauf 'U' Channel Perimeter Support
- Knauf Wafer Head Screws
- Knauf 'C' Channel
- Knauf 'U' Channel Perimeter Support

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf MF Suspended Ceilings

The Knauf MF Suspended Ceiling system is versatile and easy to install. Deep voids are easily created to hide services and the ceiling can be used to provide fire protection.
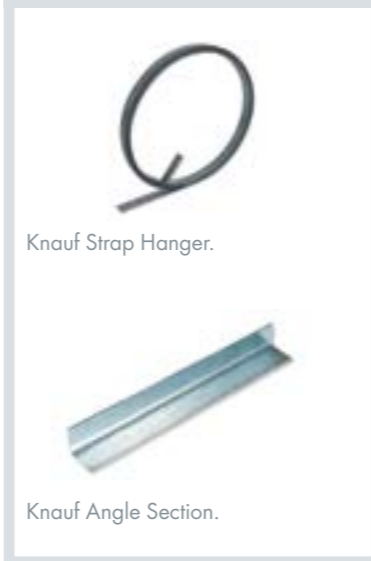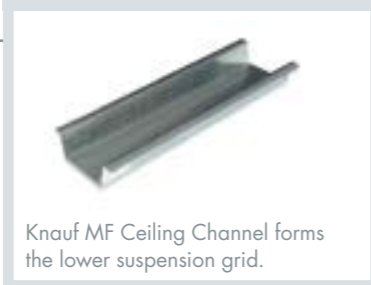
MF Suspended Ceiling

The Knauf MF Suspended Ceiling system is very familiar to contractors who will easily be able to form openings, bulkheads and coffers.

Key Features

- Simple and fast to install
- Can provide fire protection of up to 2 hours
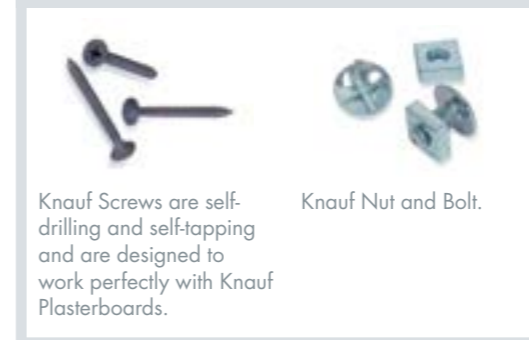- Shapes, features and openings are easily created

Finishing

Our complete range of finishing products includes hand-applied jointing, plaster and ready-mixed solutions.

Metal Components

Knauf MF Perimeter Channel.

Metal Components

Knauf MF Primary Support Channel forms the upper suspension grid.

Metal Hangers

Knauf Strap Hanger.

Knauf Angle Section.

Plasterboard

Our full range of Knauf Plasterboards is available to use with the Knauf MF Suspended Ceiling system.

Metal Components

Knauf MF Ceiling Channel forms the lower suspension grid.

Metal Components

Knauf MF Connecting Clip.

Metal Components

Knauf Soffit Cleat.

Fixings

Knauf Screws are self-drilling and self-tapping and are designed to work perfectly with Knauf Plasterboards.

Knauf Nut and Bolt.

Our range of Ceiling Solutions includes:

Generate specifications at www.knauf.co.uk

Knauf MF Suspended Ceilings

Fast track to your optimum solution

1 Choose your sector

🏠 Residential   🏢 Commercial
📚 Education   ➕ Healthcare

2 Find your performance levels

- **Fire**
- **Loading**
- **Dimensions**

3 Find your solution

If your requirements fall outside these please contact Knauf Technical Services.

Knauf MF Optimised Solutions

These are our Optimised Solutions; should your requirements fall outside these then please contact our Knauf Technical team who can provide detailed specification guidance for your project. Knauf Technical Services: 01795 416259.

Performance you can trust

All Knauf MF Suspended Ceilings utilise high-quality, purpose-designed Knauf Plasterboards, Knauf Metal Components and Knauf Accessories, tested and warranted to work together as a whole system.

Fire Protection to Floor or Roof Cavity above

Soffit Lining MF1/08	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Wallboard, fixed to the underside of a Knauf MF Ceiling system, with 100mm Knauf Earthwool Acoustic Roll in the void	30 mins	1200mm	1200mm	450mm	19.6

Soffit Lining MF2/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 15mm Knauf Fire Panel, fixed to the underside of a Knauf MF Ceiling system, with 30mm Knauf Universal Slab RS45 in the void	60 mins	1200mm	1200mm	450mm	27.4

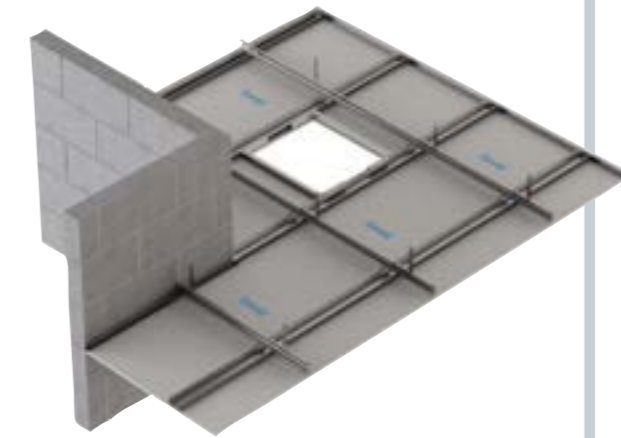* Fire resistance period in accordance with BS 476: Part 22: 1987.

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Steel Beams supporting Concrete Floors

Soffit Lining MF3/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system	30 mins	1200mm	1200mm	450mm	12.0

Soffit Lining MF4/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system	60 mins	1200mm	1200mm	450mm	22.0

* Fire resistance period in accordance with BS 476: Part 23: 1987.

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Fire Protection to Timber Floor Construction

Soffit Lining MF5/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
1 layer of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system	30 mins	1200mm	1200mm	450mm	12.0

Soffit Lining MF6/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
2 layers of 12.5mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system	60 mins	1200mm	1200mm	450mm	22.0

Soffit Lining MF7/13	Fire*	Suspension Hangers	Upper Channels	Lower Channels	System Weight (kg/m²)
3 layers of 15mm Knauf Fire Panel fixed to the underside of a Knauf MF Ceiling system, with 40mm Knauf Universal Slab RS45 in the void	120 mins	1200mm	900mm	450mm	39.8

* Fire resistance period in accordance with BS 476: Part 21: 1987.

Note: Consideration to the effect on fire performance must be given when installing services, as penetrations may affect the resistance period if not treated correctly.

Ceiling System Loading Information

The addition of services, ventilation and lighting can add significant loading to the ceiling system if the additional mass is to be borne by the ceiling. Please check the table below to see if the support channels need reducing to ensure the system is adequately specified to perform safely.

MF ceiling	Total load including weight of ceiling system (kg/m²) – this should include any additional lighting/ventilation system							
	15	20	25	30	35	40	45	50
Suspension Hanger centres (mm)	1200	1200	1200	1200	900	900	1200	1000
MF Primary Support Channel centres (mm)	1200	1200	1000	900	900	900	600	600
MF Ceiling Channel centres (mm)	450	450	450	450	450	450	450	450

Knauf MF Suspended Ceilings

Installation Procedures

Knauf Ceiling systems are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

Knauf MF Ceiling Systems must be installed in accordance with Knauf's recommendations and the recommendations of BS 8212: 1995 and BS 8000: Part 8: 1994.

When creating an airtight space, methods for the reduction of potential 'ceiling lift' should be considered. For further advice contact Knauf Technical Services

Perimeter Fixing 1

Knauf MF Perimeter Channels should be secured to the walls at the required heights, at maximum 600mm centres and 50mm from the ends of channels. The top of the Knauf MF Perimeter Channels should align with the underside of the Knauf MF Primary Support Channel.

The Knauf MF Perimeter Channels forming the perimeter and the Knauf Primary Support Channel do not need to be mechanically fixed together.

Suspension 2

Select the fixing centres suited to the ceiling loading. See page 131.

Fix Knauf Soffit Cleats to the structural soffit with suitable fixings. Choose either Knauf Angle Section or the flexible Knauf Strap Hanger and fix to the Knauf Soffit Cleat, using Knauf MF Nut and Bolt. When creating a shallow ceiling void, Knauf Universal Brackets can be used.

MF Primary Support Channels 3

The centres of the primary support channels depend on the loading requirement, determined in the MF loading information table on page 131.

Knauf Angle Section or Knauf Strap Hanger should be fixed to the Knauf Primary Support Channels with two Knauf Wafer Head Jackpoint Screws. The Primary Support Channels should lie on the upper flange of the Perimeter Channel.

Generate specifications at **www.knauf.co.uk**

Joints in MF Ceilings

If straight lengths of Knauf MF Primary Support Channels need jointing, place the channels back to back, with a minimum 150mm overlap, and fix with two Knauf Wafer Head Jackpoint Screws.

MF Ceiling Channels 4,5

The Knauf MF Ceiling Channels should be positioned at 450mm centres within the perimeter channels to coincide with the abutments of the boards, which will be fixed later.

Connect the Knauf MF Ceiling Channel to the Knauf MF Primary Support Channels by means of Knauf MF Connecting Clips. These clips fit over the Knauf MF Primary Support Channels and snap-fix over the MF Ceiling Channels.

Insulation

Once the primary support and the ceiling channels have been connected and before the boarding has started, Knauf insulation as specified should be inserted above the primary support channels. Care should be taken to ensure that the insulation is fitted neatly without gaps at abutments or between different rolls.

Movement Control Joints

Create movement control joints where ceiling runs exceed 10m, coinciding where possible with movement joints in the surrounding structure.

Boarding 6,7,8

All boards should be offered up to the ceiling grid with the decorative face of the boards outwards and secured with Knauf Screws at maximum 230mm centres. Fixing centres should be reduced to 150mm at ends and perimeter.
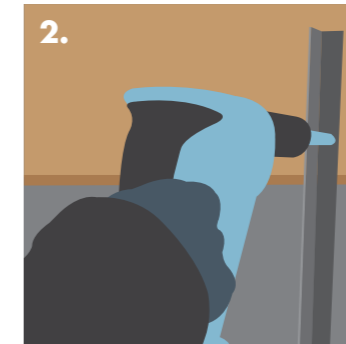
Boards should be mounted at 90° to the direction of the ceiling channels.

Once Knauf Plasterboards have been installed, spray apply Knauf Readymix plasters to finish ceiling ready for decoration.
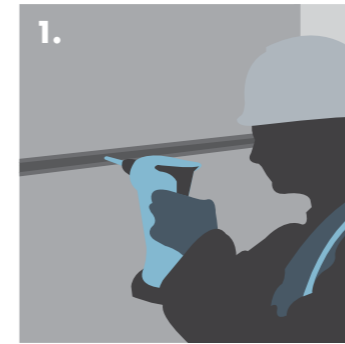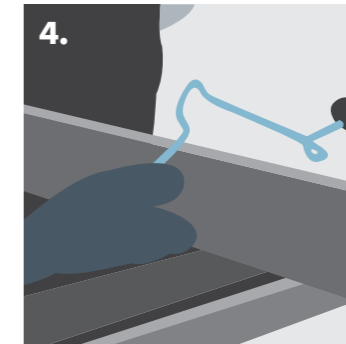

1. Fixing Knauf MF Perimeter Channel.

2. Fixing the Knauf Angle Section to the joist to form hanger.
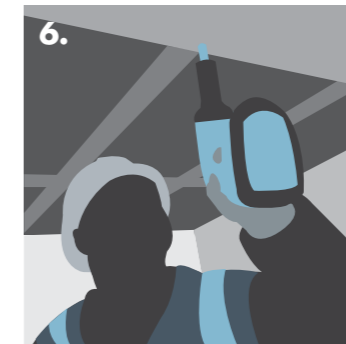
3. Fixing the Knauf Angle Section to Knauf MF Primary Support Channel.

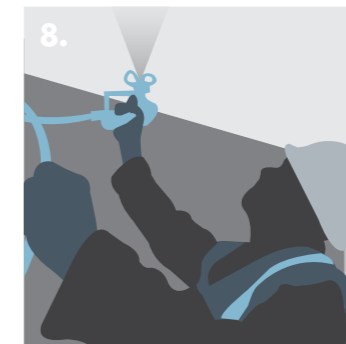**4.** Connect the Knauf Primary Support Channel to Knauf MF Ceiling Channel with Knauf MF Connecting Clips.

5. Adjusting the Knauf MF Ceiling Channel.

6. Fixing Knauf Plasterboard to Knauf MF Ceiling Channels.

7. Knauf Universal Brackets can be used as an alternative to Knauf Angle Section for shallow voids.

8. Spray-applied Knauf Readymix Plasters make finishing ceilings safe, easy and fast.
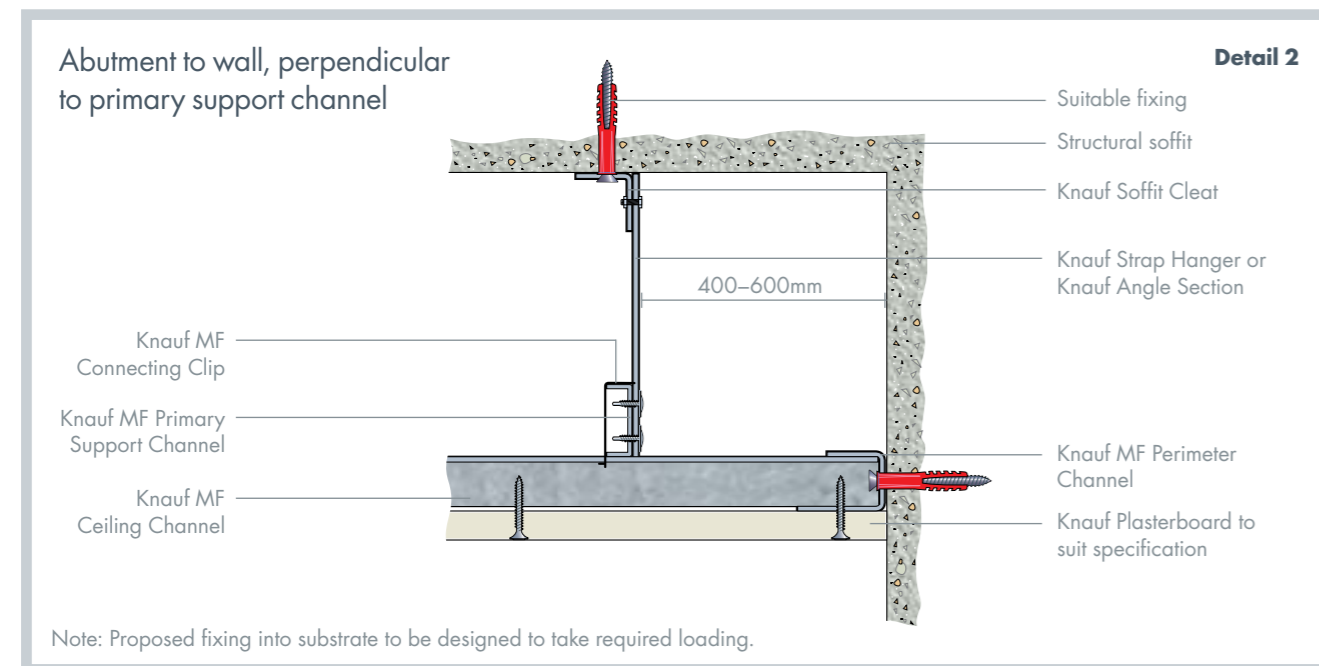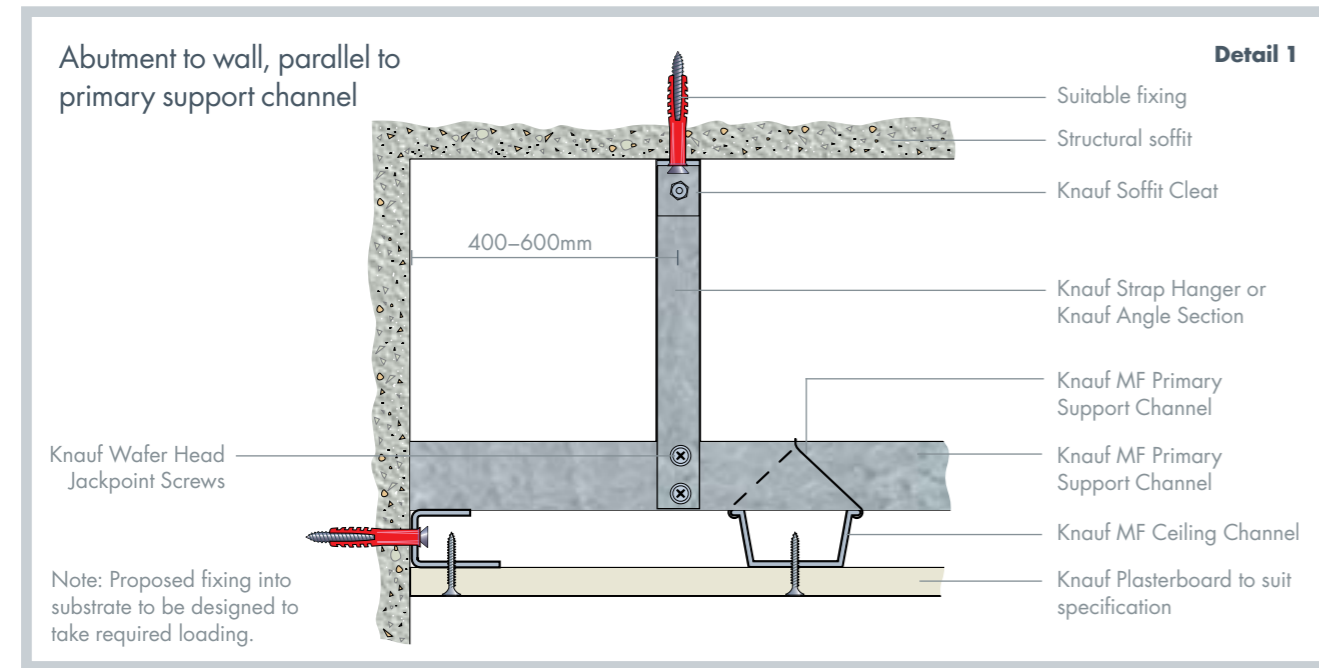
Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
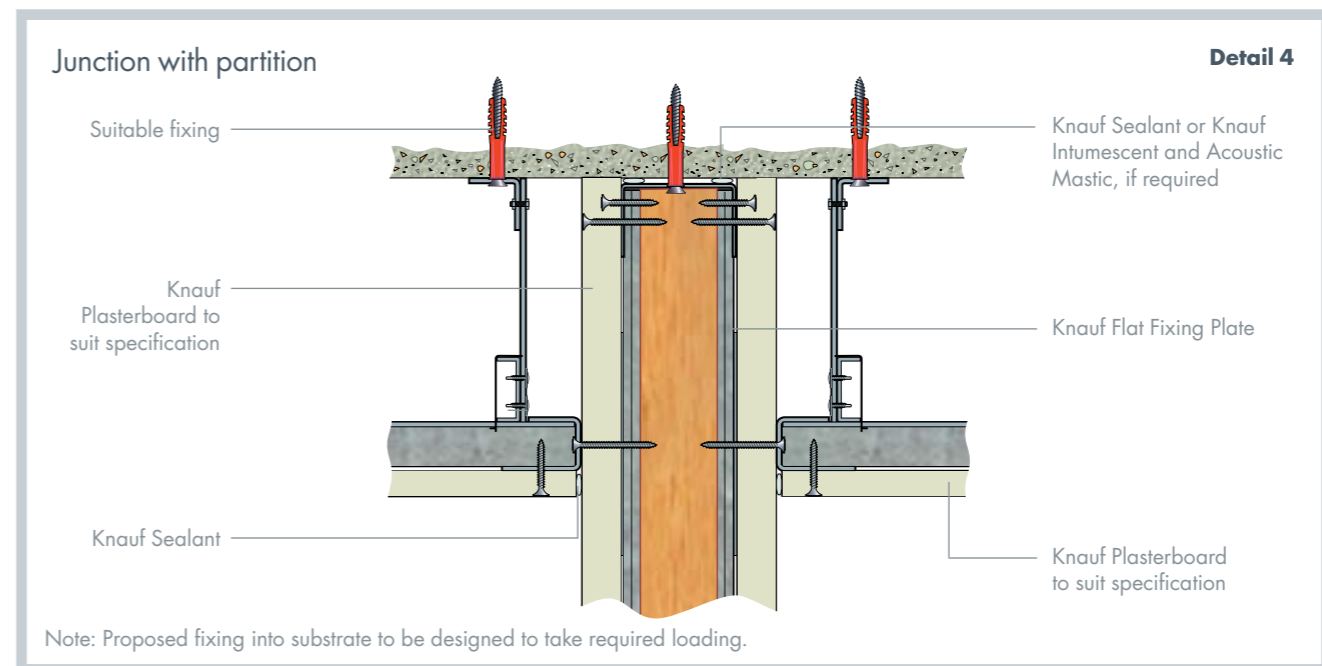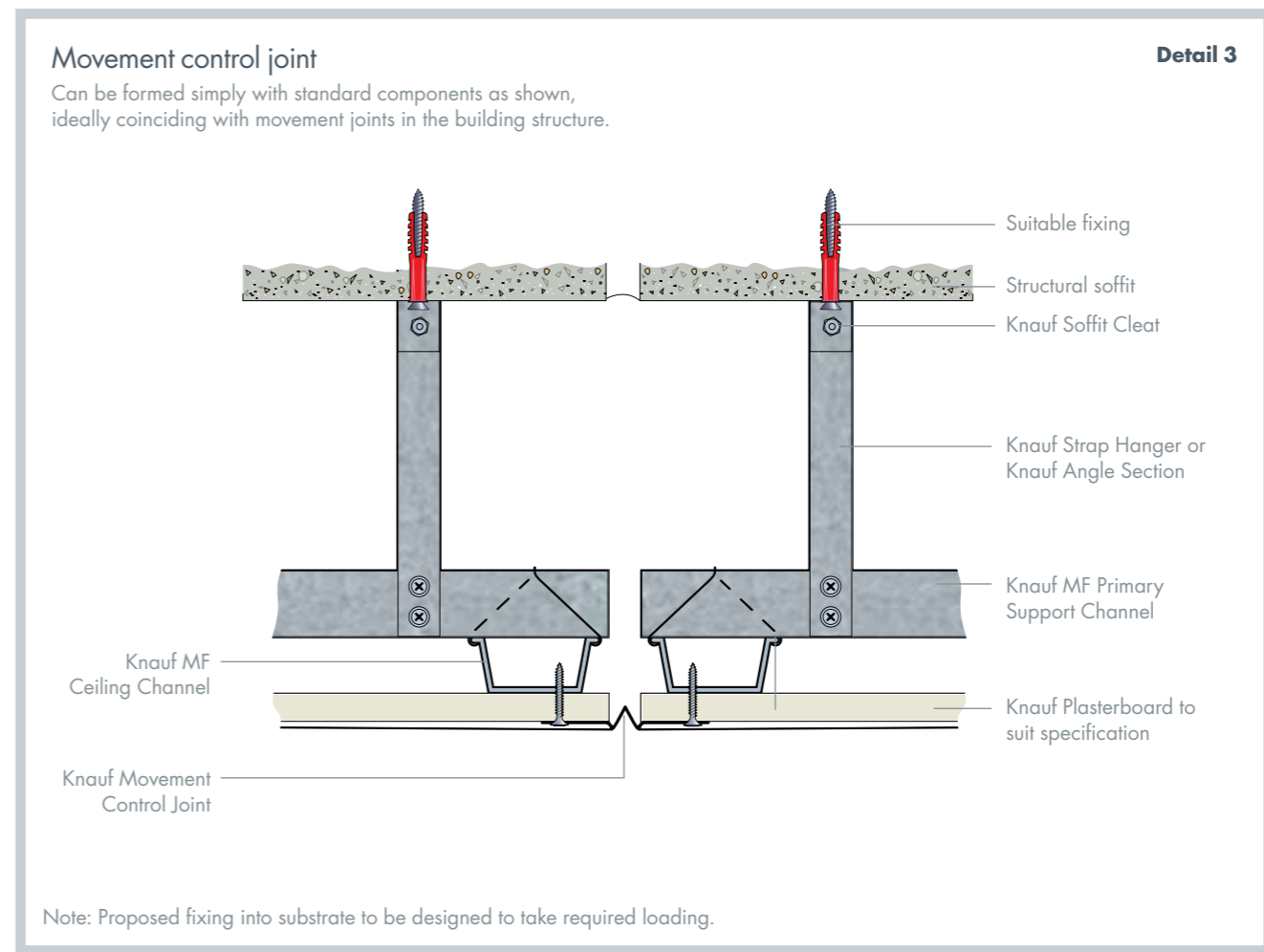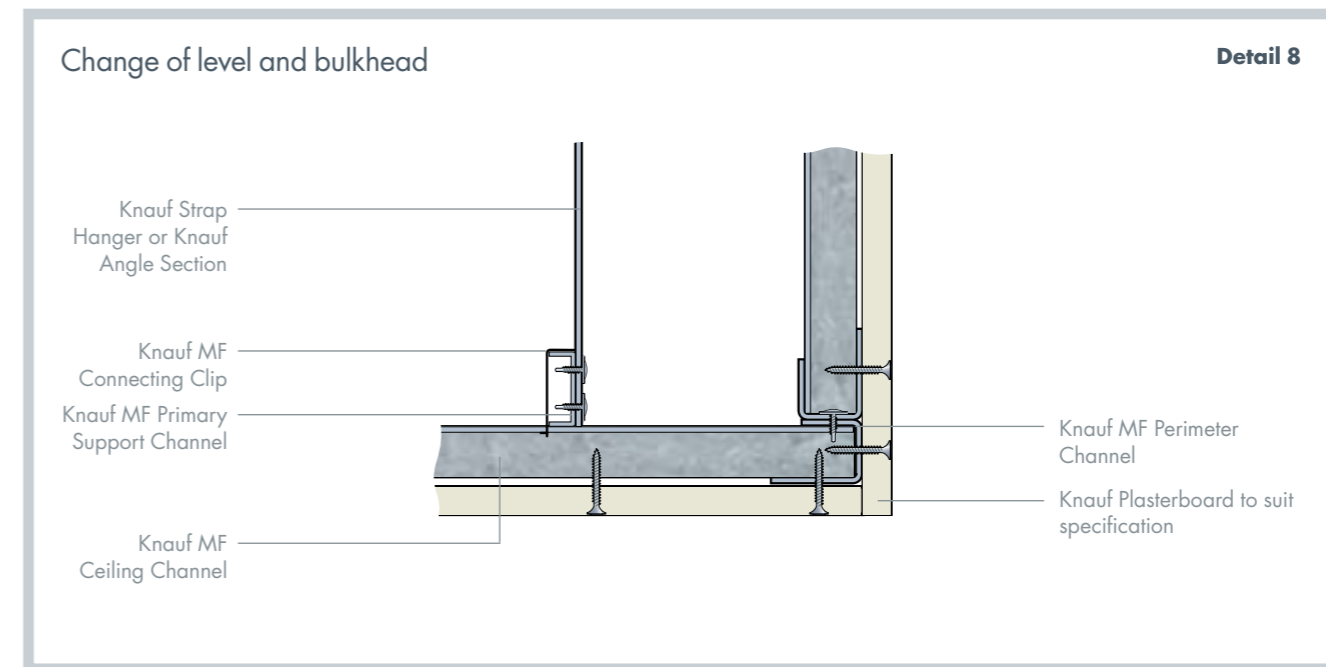
Knauf MF Suspended Ceilings
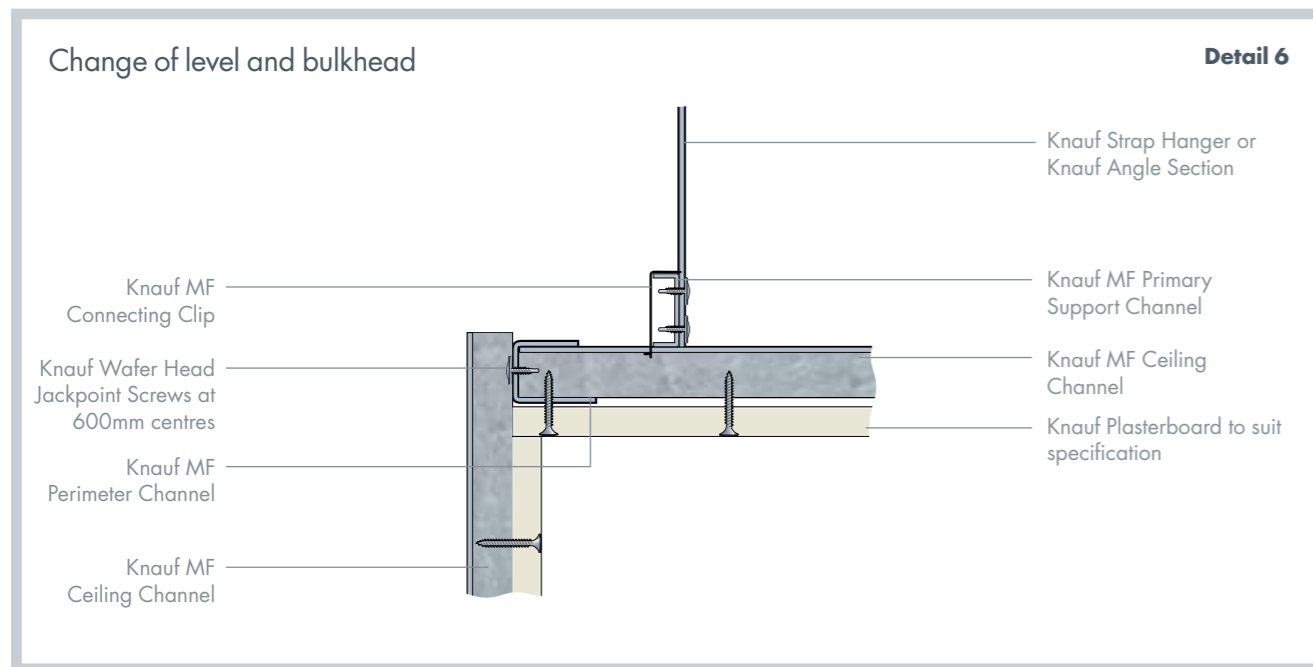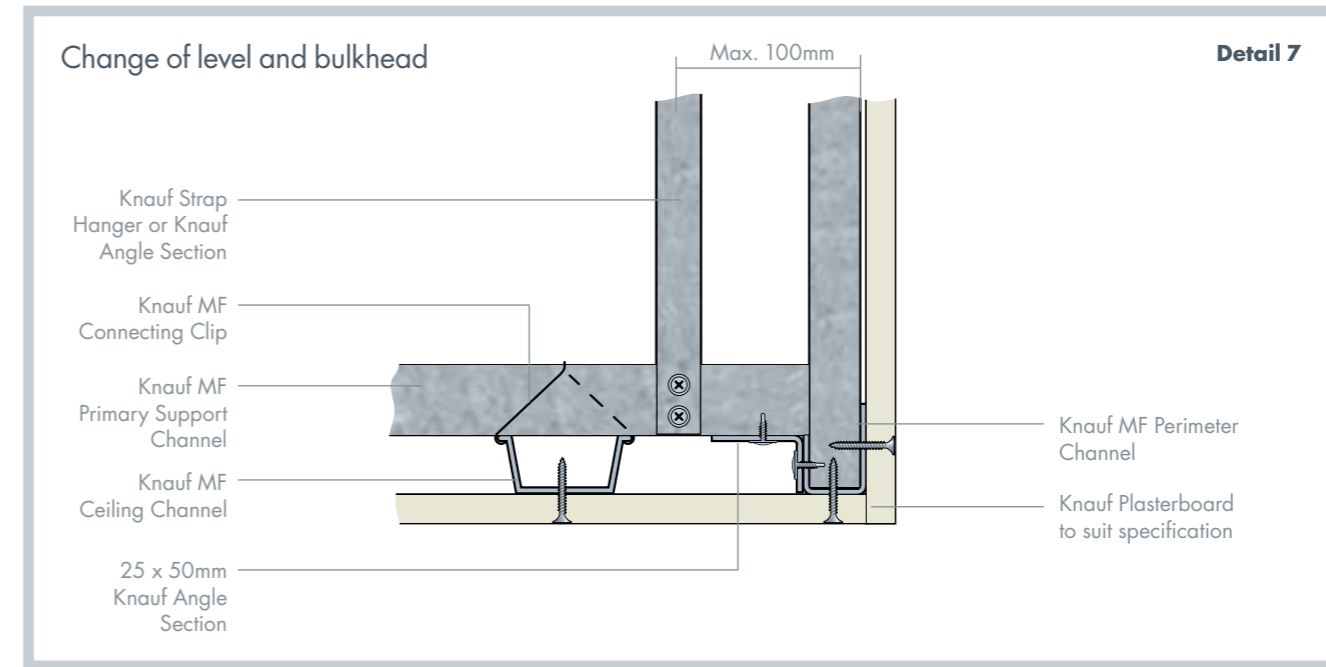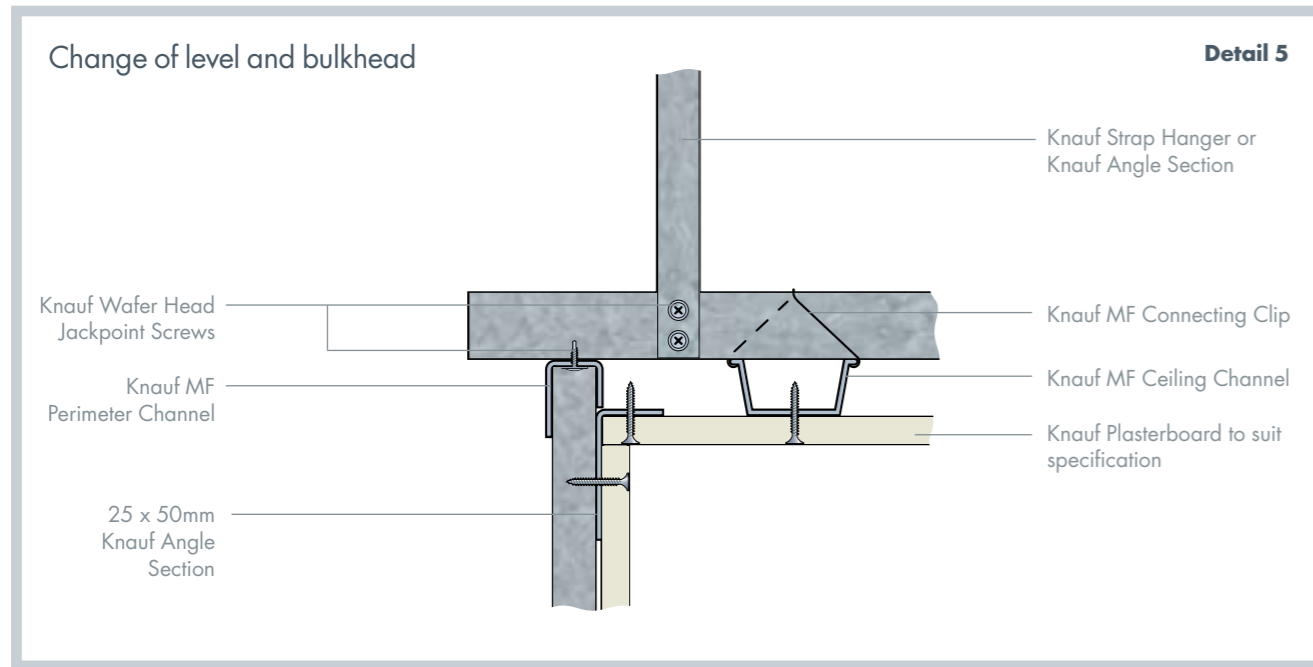
Application Details

These details represent some of the most common design situations relevant to the Knauf MF system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Abutment to wall, parallel to primary support channel

Detail 1

- Suitable fixing
- Structural soffit
- Knauf Soffit Cleat
- 400–600mm
- Knauf Strap Hanger or Knauf Angle Section
- Knauf MF Primary Support Channel
- Knauf Wafer Head Jackpoint Screws
- Knauf MF Primary Support Channel
- Knauf MF Ceiling Channel
- Knauf Plasterboard to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Abutment to wall, perpendicular to primary support channel

Detail 2

- Suitable fixing
- Structural soffit
- Knauf Soffit Cleat
- 400–600mm
- Knauf Strap Hanger or Knauf Angle Section
- Knauf MF Connecting Clip
- Knauf MF Primary Support Channel
- Knauf MF Ceiling Channel
- Knauf MF Perimeter Channel
- Knauf Plasterboard to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Movement control joint

Detail 3

Can be formed simply with standard components as shown, ideally coinciding with movement joints in the building structure.

- Suitable fixing
- Structural soffit
- Knauf Soffit Cleat
- Knauf Strap Hanger or Knauf Angle Section
- Knauf MF Primary Support Channel
- Knauf MF Ceiling Channel
- Knauf Plasterboard to suit specification
- Knauf Movement Control Joint

Note: Proposed fixing into substrate to be designed to take required loading.

Junction with partition

Detail 4

- Suitable fixing
- Knauf Sealant or Knauf Intumescent and Acoustic Mastic, if required
- Knauf Plasterboard to suit specification
- Knauf Flat Fixing Plate
- Knauf Sealant
- Knauf Plasterboard to suit specification

Note: Proposed fixing into substrate to be designed to take required loading.

Knauf MF Suspended Ceilings

Change of level and bulkhead
Detail 5

Knauf Strap Hanger or Knauf Angle Section

Knauf Wafer Head Jackpoint Screws

Knauf MF Perimeter Channel

Knauf MF Connecting Clip

Knauf MF Ceiling Channel

Knauf Plasterboard to suit specification

25 x 50mm Knauf Angle Section

Change of level and bulkhead
Detail 6

Knauf Strap Hanger or Knauf Angle Section

Knauf MF Connecting Clip

Knauf Wafer Head Jackpoint Screws at 600mm centres

Knauf MF Perimeter Channel

Knauf MF Ceiling Channel

Knauf MF Primary Support Channel

Knauf MF Ceiling Channel

Knauf Plasterboard to suit specification

Change of level and bulkhead
Detail 7

Max. 100mm

Knauf Strap Hanger or Knauf Angle Section

Knauf MF Connecting Clip

Knauf MF Primary Support Channel

Knauf MF Ceiling Channel

25 x 50mm Knauf Angle Section

Knauf MF Perimeter Channel

Knauf Plasterboard to suit specification

Change of level and bulkhead
Detail 8

Knauf Strap Hanger or Knauf Angle Section

Knauf MF Connecting Clip

Knauf MF Primary Support Channel

Knauf MF Ceiling Channel

Knauf MF Perimeter Channel

Knauf Plasterboard to suit specification

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Ceiling Linings: Direct to Joists

High-quality Knauf Plasterboards are designed to be easy to cut, lift and fix to the underside of timber joists to complete a floor that meets all the relevant fire and acoustic regulations.

Designed to work with modern timber construction

Modern timber joist floors come in a variety of guises from traditionally based solid timber joists to composite engineered I-Beam solutions. We have developed products such as our high acoustic performance plasterboard, Knauf Soundshield Plus and Knauf Resilient Bar around the requirements of flooring as well as partitions, and have tested our products with the majority of common solutions.

Tried and tested solutions

Floors in general, and timber floors in particular, create a number of challenges for the ceiling below. All floors will deflect and it is essential from a decoration point of view that the correct materials are used to resist cracking at joints. Knauf jointing compounds and Knauf joint tapes have been rigorously tested and developed to provide a robust lining that resists cracking. Specifying Knauf Wood Screws also minimises the chances of 'nail popping', caused when the timber itself warps or shrinks due to moisture changes.

Timber joist floors incorporating Knauf Plasterboards have been substantively tested for fire, acoustic and robustness performance.

Other Soffit Lining Solutions:

Generate specifications at www.knauf.co.uk

Typical Knauf direct to joist design detail

Minimum 22mm tongue and groove (T&G) flooring

Engineered timber joist

15mm Knauf Wallboard fixed directly to joists using 38mm Knauf Wood Screws at maximum 200mm centres
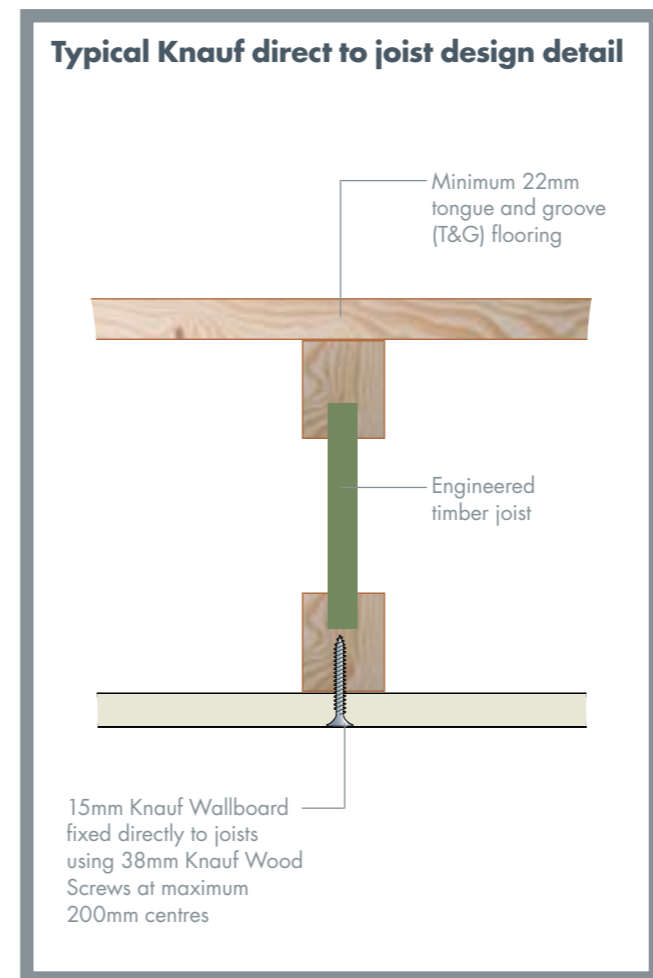
Internal Floors for Residential Projects

| Soffit Lining IFR1/13	Sound	Fire**
22mm T&G Floor Boarding over solid timber joists. 1 layer of 12.5mm Knauf Soundshield Plus* fixed to underside of joists	40dB(Rw)	30 mins

Soffit Lining IFR2/08	Sound	Fire**
22mm T&G Floor Boarding over solid timber joists. 1 layer of 15mm Knauf Wallboard fixed to underside of joists	40dB(Rw)	30 mins

Soffit Lining IFR3/08	Sound	Fire**
22mm T&G Floor Boarding over timber 'I' joists. 1 layer of 15mm Knauf Wallboard fixed to underside of joists	40dB(Rw)	30 mins

*   If joists are at greater than 450mm centres, timber noggings of nominal size 38mm x 38mm are required between joists and at ceiling perimeter to support board edges.

** Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

Nogging layout for Knauf Ceiling Lining direct to joists Noggings are required to support board edges when using 12.5mm thick plasterboard with joists at 600mm centres. No noggings are required where joist centres are at 450mm or lower centres, or when installing 15mm Knauf Plasterboard onto joists at 600mm centres. See the diagram below.

1200mm

600mm

2400mm

450mm

1200mm
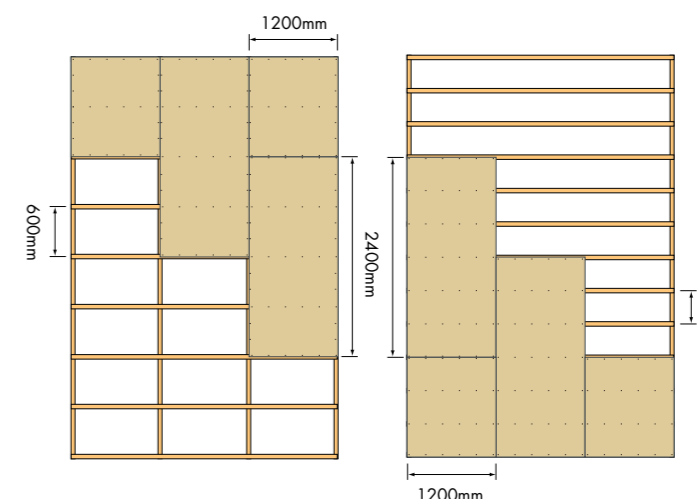
Generate specifications at www.knauf.co.uk

Warm Roof Linings

Knauf thermal insulating Warm Roof Linings save money on new-build and loft conversion projects by combining the functions of insulating and lining. They offer one of the easiest and most effective ways to comply with the Building Regulations and help meet the Code for Sustainable Homes.

Knauf Thermal Laminates are mechanically fixed directly over the rafters, with additional Knauf insulation between the rafters. Using highly efficient insulation materials as part of the lining means there is no need to extend the rafters, keeping installed costs to a minimum without losing valuable room space.

Specifying Knauf thermal insulating Warm Roof Linings in conjunction with the other insulating elements of the roof is one of the simplest ways to meet the requirements of the Building Regulations and help meet the Code for Sustainable Homes.

Upgrading existing building stock

Real energy savings and reduced carbon emissions depend on bringing the UK's vast stock of inefficient old buildings up to modern thermal performance standards as soon as possible. Combining a loft conversion with a thermal upgrade makes the most efficient use of the building footprint while significantly reducing energy usage into the future.

The Knauf Insulating Laminate range of quick-to-install thermal plasterboards provide instant cost-effective dry lining and insulation solutions for all sloping roof situations, cutting energy needs dramatically.

Other Soffit Lining Solutions:

C-Form Suspended Ceilings	118
MF Suspended Ceilings	128
Ceiling Linings Direct to Joists	138
Acoustic and Aesthetic Ceilings	194

Generate specifications at **www.knauf.co.uk**

Typical Knauf Warm Roof Lining design detail:

Knauf Breatheline

Knauf Rafter Roll

Knauf Insulating Laminate

Knauf Sealant to reduce air leakage

Air barrier

Roof insulation to link with wall insulation
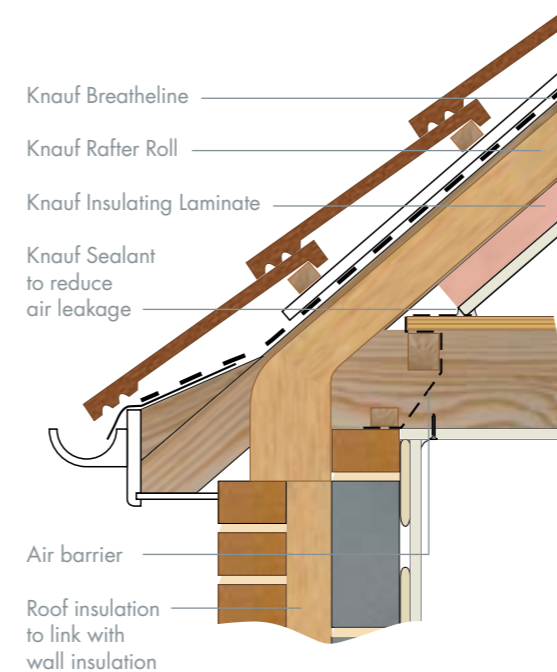
Knauf Insulating Laminates

For more information on our complete Insulating Laminate range see pages 244–245.

Knauf Insulating Laminates also provide instant energy savings when used to upgrade existing walls and can offer cost-effective solutions where used as part of new build specification. See pages 112–115.

Part L Solutions

U-values for roofs with insulation between and Knauf Insulated Laminates fixed to rafters.

Target U-value (W/m²K)	Knauf Earthwool 100mm	Knauf Earthwool 150mm	Knauf Earthwool 200mm	Knauf Earthwool 100mm
0.19 (L1A)	65mm Knauf PIR Laminate	40mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate
0.20 (L1B)	65mm Knauf PIR Laminate	35mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate	22mm Knauf Thermal Laminate

Code for Sustainable Homes Solutions

U-values for roofs with insulation between and Knauf Insulated Laminates fixed to rafters.

Target U-value (W/m²K)	Knauf Earthwool 100mm	Knauf Earthwool 150mm	Knauf Earthwool 200mm	Knauf Earthwool 100mm
0.15 (Code 5/6, 2016)	–	65mm Knauf PIR Laminate	45mm Knauf XPS Laminate Plus	50mm Knauf PIR Laminate
0.17 (Code 4, 2013)	–	50mm Knauf PIR Laminate	30mm Knauf Thermal Laminate	10mm Knauf XPS Laminate Plus
0.18 (Code 3, 2011)	75mm Knauf PIR Laminate	55mm Knauf XPS Laminate Plus	22mm Knauf Thermal Laminate	40mm Knauf Thermal Laminate

Notes:
An additional vapour control layer is needed for Knauf XPS Laminate Plus solutions above.
An additional vapour control layer is needed for Knauf Thermal Laminate solutions above, or specify Knauf Thermal Laminate Vapourcheck.
When specifying the depth of insulation, consideration should be made to allow for ventilation space.

Generate specifications at **www.knauf.co.uk**

Flooring

Knauf flooring products are precision engineered from the highest-quality gypsum fibreboard to create strong monolithic floor structures. From Knauf Brio for domestic new build and refurbishment through to Knauf GIFAfloor for access floor systems in high-specification commercial building, Knauf has a wide range of flooring products to suit modern construction methods.

Knauf Brio is an engineered gypsum flooring panel with 60% recycled content. It's a strong, lightweight and quickly installed dry screed system. Brio has a very high thermal conductivity (R = 0.38 W/mK) so heating response times are quicker and energy use is reduced.

Knauf GIFAfloor systems use engineered flooring panels with a recycled material content of 50%. Fibres from wholly recycled paper are blended with a mix of natural and flue gas desulphurised gypsum to create non-combustible gypsum fibreboard panels with A1 fire rating.

Knauf Brio

Dry floor screed for enhanced acoustic performance and thermal efficiency.

What is Brio?

- Gypsum fibre dry floor screed panel
- Thermally transparent
- Dimensionally stable
- Ideal over underfloor heating systems
- Strong and exceptionally well engineered
- High recycled content

Knauf GIFAfloor

Load-bearing partial-access floor systems with high dimensional stability.

What is GIFA?

- Load-bearing gypsum fibre panels
- Ideal substrate for stone finishes
- Dimensionally stable and robust
- Engineered with tongue and groove edge profile
- Suitable for partial access to void
- Enhances underfloor heating system performance
- Non-combustable A1 fire rating

For more information on our flooring products visit our website www.knauf.co.uk

External Linings

Dry construction is already the preferred method for many off-site and on-site projects due to the benefits it brings in reduced timescales, consistency and improved health and safety. Aquapanel Exterior external cladding systems take these benefits to the next stage.

Aquapanel Exterior is a tough, dimensionally stable cement board for use in exterior areas as a render carrier or cladding background.

Once taped and jointed, Aquapanel Exterior can be left unfinished for up to 6 months, making use of even small windows of opportunity to completely close the external envelope, maximising the efficiency of the project schedule.

Aquapanel Exterior is easily curved, allowing for striking architectural features to be formed. Aquapanel Exterior is also ideal for creating external soffits and the illusion of an internal ceiling continuing through the façade to the outside of the building. Protects structural steelwork for up to 2 hours.

Aquapanel Exterior Cladding System

The Knauf Aquapanel Exterior System is an exterior cladding system for use on timber frame, timber battens and metal framed structures. The system provides a fast, high-quality and extremely economical alternative to traditional methods of construction.

BBA
BRITISH BOARD OF AGRÉMENT
CERTIFICATE No 09/4633

Jointing

Knauf Aquapanel Exterior Joint Filler.

Aquapanel Exterior Cement Board

Knauf Aquapanel Exterior Cement Board.

Basecoat

Exterior basecoat (by others).

Exterior Plasters

Top coat render (by others).

Generate specifications at **www.knauf.co.uk**
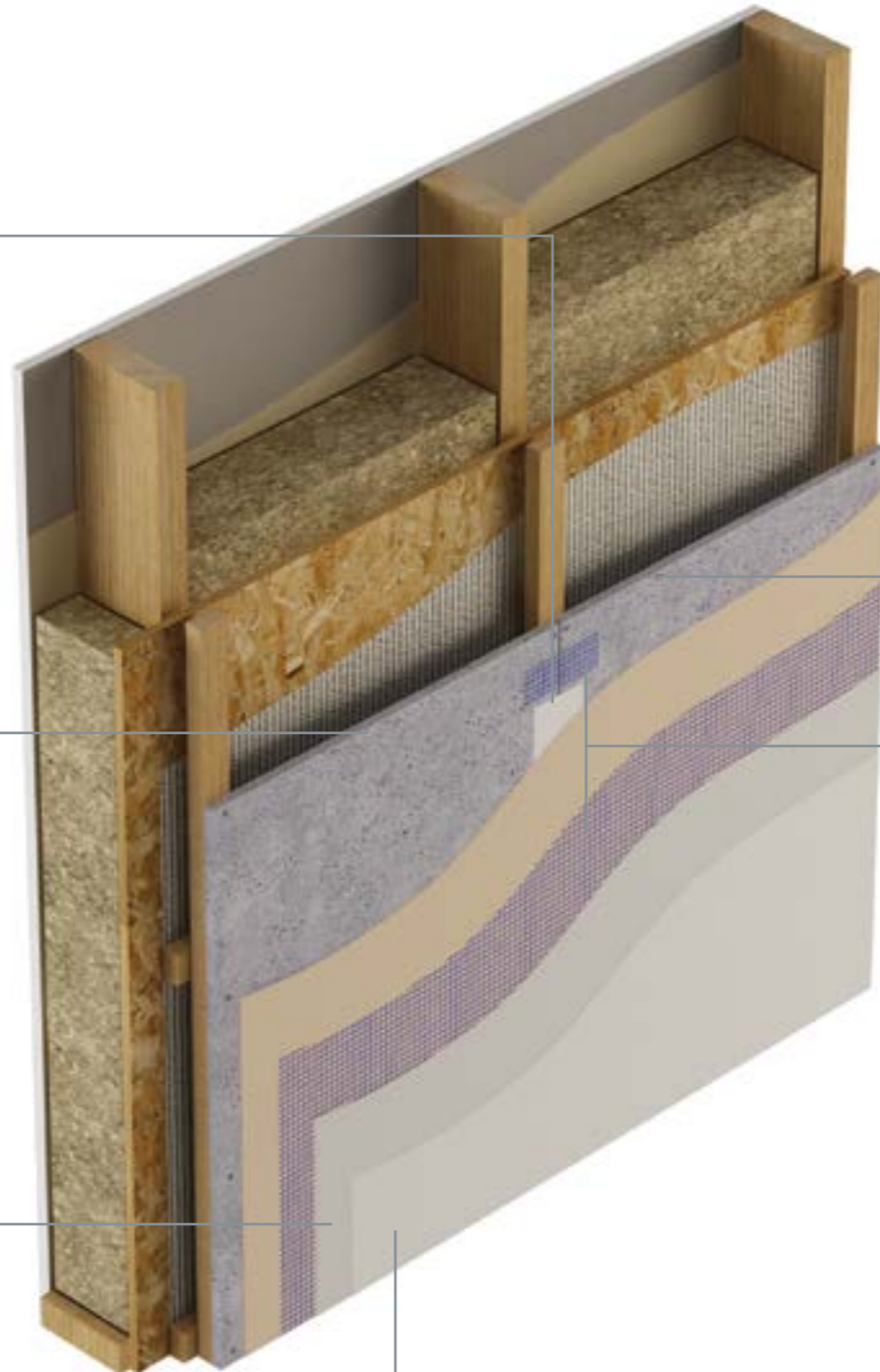
Aquapanel Exterior
Knauf Aquapanel Exterior enables fast closing of exterior stud walls, and can be left unfinished for 6 months while work continues inside.

Fixings

Knauf Aquapanel Maxi Screws.

Knauf Aquapanel Stainless Steel Screws.

Other Components

Knauf Aquapanel Exterior Reinforcing Tape.

Reinforcing mesh (by others).

Key Features
- Fast closure of exterior walls
- Taped and jointed boards can be left unfinished for up to 6 months
- Easy to cut and fix (score and snap, no pre-drilling)
- Aquapanel Exterior Cement Board is a completely non-organic, robust and stable substrate
- Easily curved to a minimum 1 metre radius
- Lighter and faster than traditional brick and block construction of facades
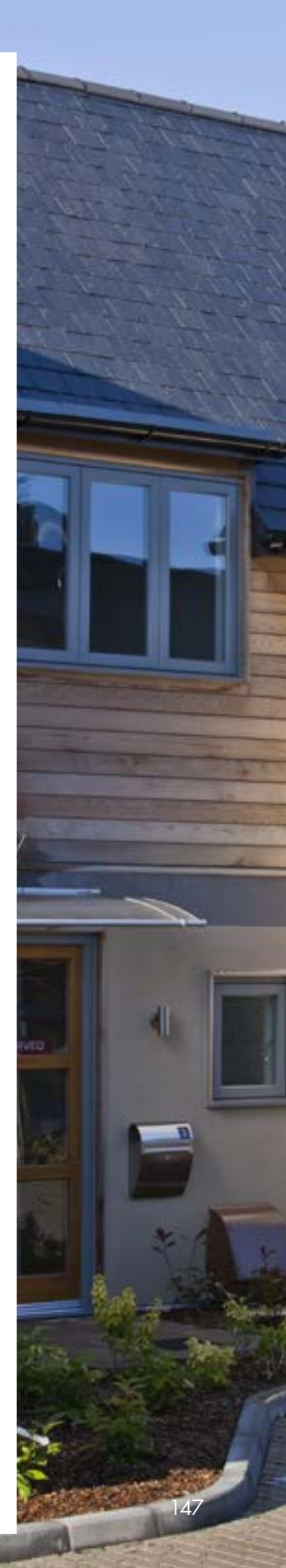
BBA Certification

All details and application to be read in conjunction with BBA Certificate No. 09/4633, available at: www.bbacert.co.uk

Other Aquapanel Systems:

Aquapanel Exterior

Your optimum solution for fast closure of external walls

Knauf Aquapanel Exterior is suitable for use over a wide variety of timber and stud external walls, rapidly closing the external envelope.

The systems below are a few examples of typical solutions. Please contact Knauf Technical Services to discuss your particular situation.

Example external wall systems incorporating Knauf Aquapanel Exterior.

Aquapanel Exterior Lining to Structural Metal Stud Wall

30 minute fire rated*

External Lining: AEL01/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, with Knauf Aquapanel Tyvek® Stuccowrap™ Breather Membrane behind

Structural Studwork (design to suit):

Minimum 75mm structural metal studs at maximum 600mm centres. 40mm Knauf Universal Slab RS45 within the cavity

Internal Lining:

1 layer of 15mm Knauf Fire Panel fixed over a vapour control layer between stud and board

Fire:

30 mins*

---

* Fire performance for system is 30 minutes to EN 1363-1:1999-10 (rating from the outside of the wall to the inside).

Aquapanel Exterior Lining to Structural Metal Stud Wall

60 minute fire rated*

External Lining: AEL02/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, with Knauf Aquapanel Tyvek® Stuccowrap™ Breather Membrane behind

Structural Studwork (design to suit):

Minimum 75mm structural metal studs at maximum 600mm centres. 60mm Knauf Universal Slab RS60 within the cavity

Internal Lining:

2 layers of 15mm Knauf Fire Panel fixed over a vapour control layer between stud and the inner board layer

Fire:

60 mins**

** Fire performance for system is 60 minutes to EN 1363-1:1999-10 (rating from the outside of the wall to the inside).

Looking for a different Knauf Aquapanel Exterior solution?

These are typical solutions designed to provide an effective system to suit the specific performance criteria for that sector.

Should your requirements fall outside these, please contact Knauf Technical Services

Knauf Technical Services:
01795 416259
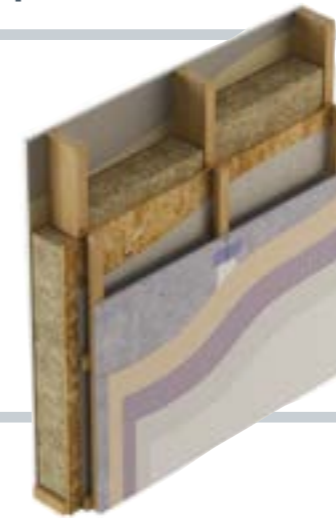
Aquapanel Exterior Lining to Structural Timber Stud Wall

External Lining: AEL03/13

1 layer of 12.5mm Knauf Aquapanel Exterior Cement Board, taped and jointed using Knauf Aquapanel Exterior Joint Filler Grey and Knauf Aquapanel Exterior Tape 10cm, backed by a 15mm Euroclass A2 fire rated Sheathing Board with a Knauf Aquapanel Tyvek® Stuccowrap™ Breather Membrane between the boards

Structural Studwork (design to suit):

Minimum 120mm x 60mm structural timber frame with studs at maximum 600mm centres. 120mm Knauf Universal Slab RS45 within the cavity

Internal Lining:

1 layer of 15mm Knauf Fire Panel with a vapour control layer between stud and board

Fire:

30 mins / 90 mins***

*** Fire performance for system is 90 minutes to DIN 4102-2:1977-09 (rating from the outside of the wall to the inside) and 30 minutes to DIN 4102-2:1977-09 (rating from the inside of the wall to the outside).

Aquapanel Exterior Linings are trusted systems

Knauf Aquapanel Exterior Linings have been rigorously tested and are both BBA Certified and accepted by the NHBC and Zurich.

Extracts from BBA Certificate no. 09/4633

NHBC Standards 2011

"The NHBC accepts the use of the Knauf Aquapanel External System when installed and used in accordance with this Certificate, in relation to NHBC Standards, Part 6 Curtain Walling and Cladding, Chapters 6.2 External timber framed walls and 6.10 Light steel framed walls and floors."

LABC and Premier Guarantee Approval

LABC and Premier Guarantee – two of the leading structural warranty providers in the UK – both approve the use of the Knauf Aquapanel Exterior System under their warranted building systems.

Aquapanel Exterior

Installation Procedures

Knauf Aquapanel Exterior Cement Boards are designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

Perparation 1

Use a knife to score the Knauf Aquapanel Exterior on one side so that the mesh is cut. Snap the scored edge and cut through the mesh on the rear side.

For sharp-edged cuts, for example exterior edges, use a hand-held circular saw with a dust extractor or a pendulum jigsaw. To make cut-outs for wiring and pipes, use a jigsaw or keyhole saw.

The diameter of the opening should be approximately 10mm greater than the diameter of the pipe. The remaining gap can be closed with a suitable sealant or sealing strip.

Knauf Aquapanel Exterior can be curved to a radius of 3 metres with a full board or to a 1 metre radius having cut the board into 300mm strips. Bend the Knauf Aquapanel Exterior panel prior to installation. The fine cracks that occur on the board surface will not cause any loss of performance to the final system when finished to a basecoat level.

Fixing Board 2

Apply Knauf Aquapanel Exterior horizontally to members at maximum 600mm centres. Ensure there is a gap of 3–5mm between the boards and that the members are central behind both boards.

When fitting Knauf Aquapanel Exterior, ensure that the vertical joints are centrally aligned to the board below.

When fitting Knauf Aquapanel Exterior around windows and doors ensure that no vertical joints coincide at window and door corners as this may allow moisture ingress.

Use Knauf Aquapanel Maxi Screws to fix the boards to metal members.

Use Knauf Aquapanel Exterior Stainless Steel Screws to fix the boards to the timber members.

Screws should be at least 15mm in from the edge of the Knauf Aquapanel Exterior and spaced at maximum 250mm centres.

Screws should not be over tightened.

Taping and Jointing 3,4

Immediately after installing the Knauf Aquapanel Exterior, protect the framework from weathering by filling all the joints with Knauf Aquapanel Exterior Joint Filler – Grey. Use the Knauf Aquapanel Exterior Joint Filler – Grey to fill the gaps between the board and then spread it over the face of the board, ready to take the tape. Immediately embed Knauf Aquapanel Exterior Joint Tape (10cm) or Knauf Aquapanel Exterior Reinforcing Tape – as specified, centred over all of the joints. Scrape the excess Knauf Aquapanel Exterior Joint Filler – Grey from the Knauf Aquapanel Exterior Tape leaving it just covered.

Cover the screw heads with Knauf Aquapanel Exterior Joint Filler – Grey.

Corners are protected by applying exterior basecoat, then embedding a corner profile in a similar way to the joint tape.

Reinforce window and door corners with extra pieces of reinforcing mesh, cut to size 50cm x 30cm, embedded into exterior basecoat as per corner profiles.

Finishing 5,6,7

Refer to installation instructions from the selected/specified render supplier, alternatively:

Cover the entire wall with basecoat to a depth of approximately 5mm.

Using a tile adhesive trowel create a notched layer of basecoat with notch depth of approx 8mm. Return the removed basecoat to the bucket to be reused later.

Embed reinforcing mesh over the entire surface. Overlap the reinforcing mesh by 100mm at edges. Apply a thin coat of basecoat over the mesh and notches just covering the mesh and creating a smooth finish. The finished layer should be approximately 5–7mm thick and the reinforcing mesh should be in the top third of the finished surface. Before continuing with the next steps, allow the basecoat to fully dry.

Exterior Render 8

Render must be applied in accordance with BS EN 13914-4:2005, Code of Practice for External Rendering.

Fully mix the renders before applying them to ensure that the colour is true right through. Apply the chosen exterior finish to each wall area.

The scaffold around the finished wall must be covered to protect from rain or weathering until the finish is fully dry.

1.

Scoring Knauf Aquapanel Exterior with a knife.

2.

Fixing the boards to the background members.

3.

Embedding Knauf Aquapanel Exterior Joint Tape.

4.

Covering screw heads with Knauf Aquapanel Joint Filler – Grey.

5.

Applying notches within the basecoat.

6.

Applying reinforcing mesh.

7.

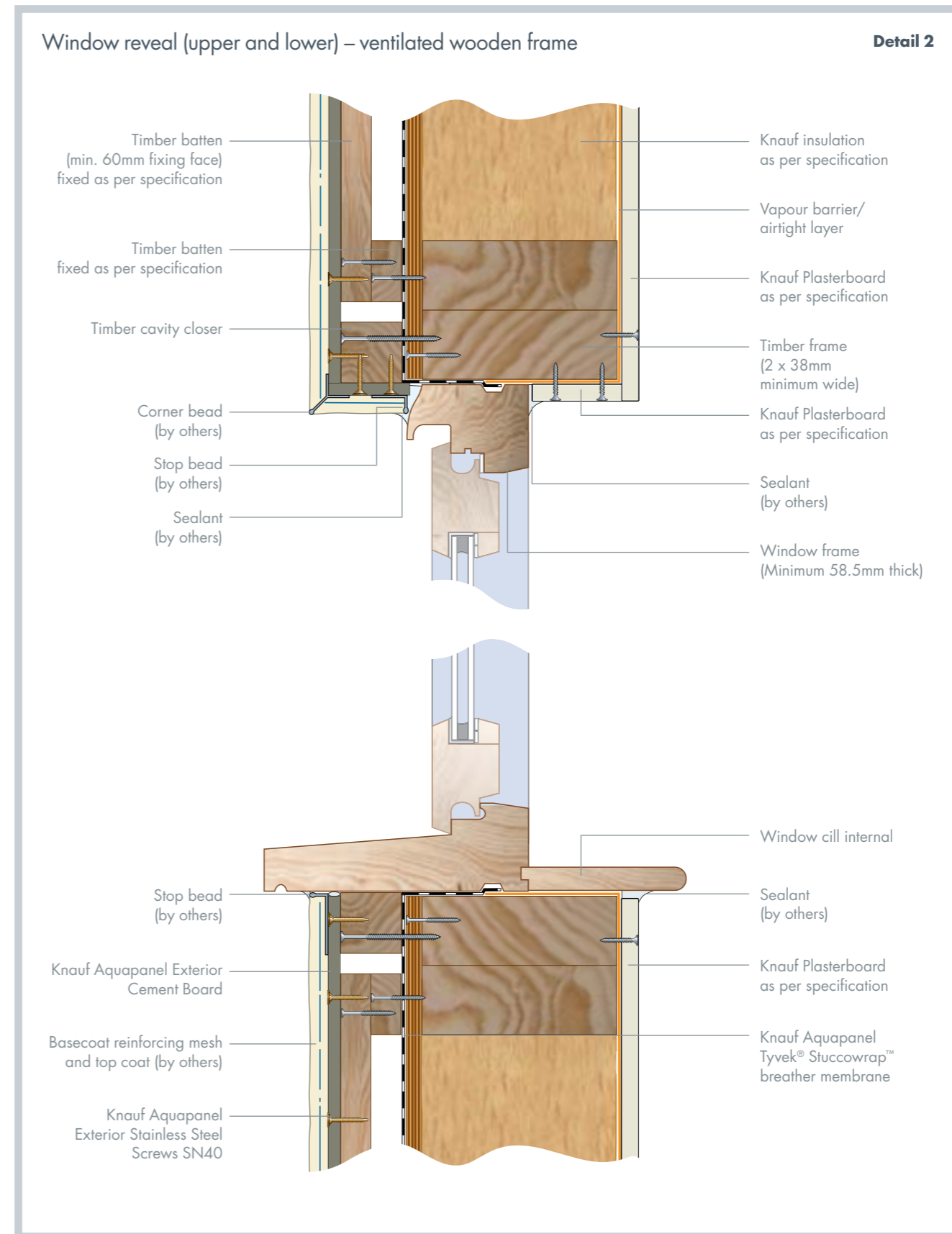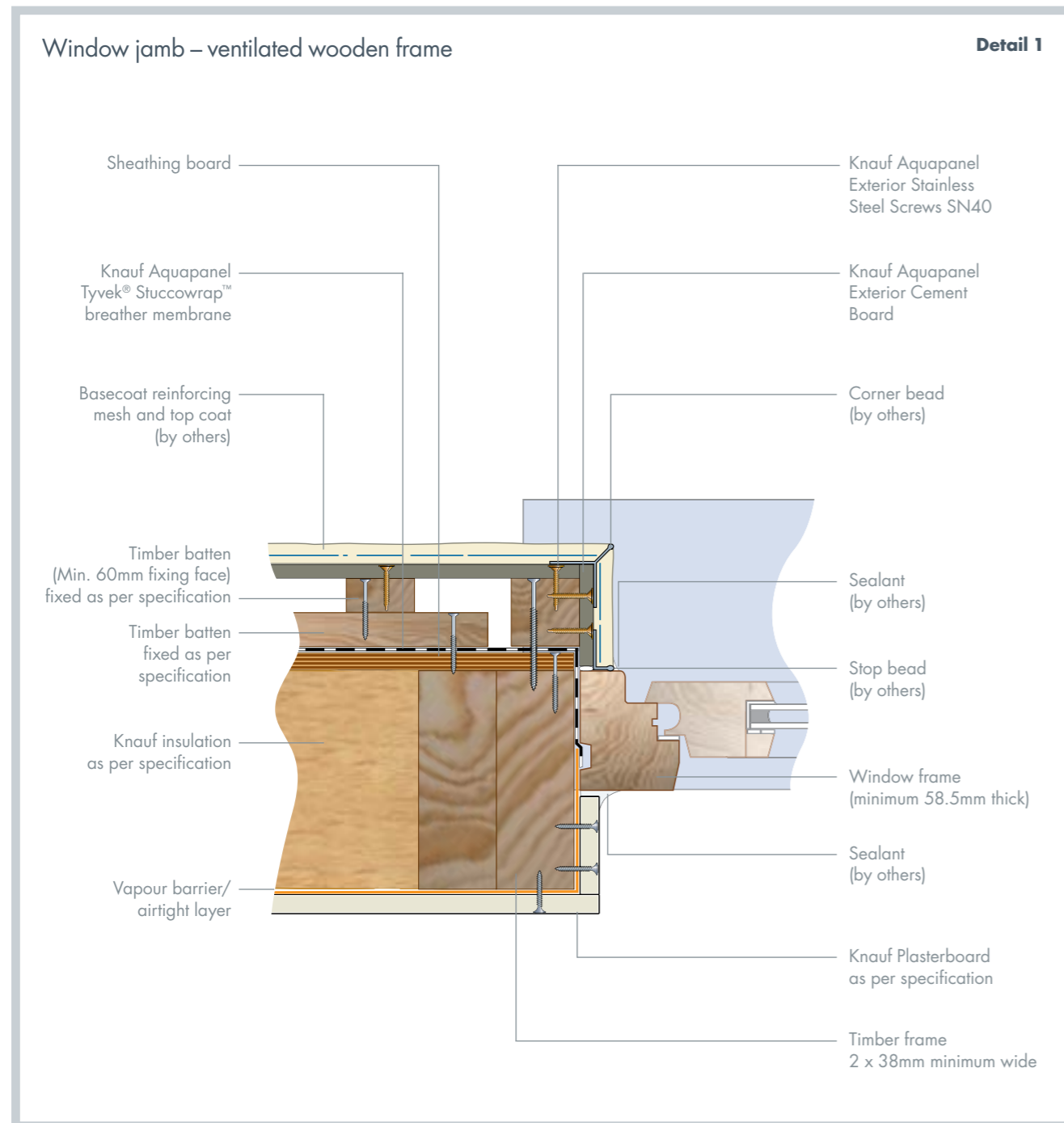Covering mesh with basecoat.

8.

Applying finish.

Aquapanel Exterior

Application Details

These details represent some of the most common design situations relevant to the Knauf Aquapanel Exterior system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Window jamb – ventilated wooden frame
Detail 1

Sheathing board

Knauf Aquapanel Tyvek® Stuccowrap™ breather membrane

Basecoat reinforcing mesh and top coat (by others)

Timber batten (Min. 60mm fixing face) fixed as per specification

Timber batten fixed as per specification

Knauf insulation as per specification

Vapour barrier/ airtight layer

Knauf Aquapanel Exterior Stainless Steel Screws SN40

Knauf Aquapanel Exterior Cement Board

Corner bead (by others)

Sealant (by others)

Stop bead (by others)

Window frame (minimum 58.5mm thick)

Sealant (by others)

Knauf Plasterboard as per specification

Timber frame 2 x 38mm minimum wide

Window reveal (upper and lower) – ventilated wooden frame
Detail 2

Timber batten (min. 60mm fixing face) fixed as per specification

Timber batten fixed as per specification

Timber cavity closer

Corner bead (by others)

Stop bead (by others)

Sealant (by others)

Knauf insulation as per specification

Vapour barrier/ airtight layer

Knauf Plasterboard as per specification

Timber frame (2 x 38mm minimum wide)

Knauf Plasterboard as per specification

Sealant (by others)

Window frame (Minimum 58.5mm thick)

Stop bead (by others)

Knauf Aquapanel Exterior Cement Board

Basecoat reinforcing mesh and top coat (by others)

Knauf Aquapanel Exterior Stainless Steel Screws SN40

Window cill internal

Sealant (by others)

Knauf Plasterboard as per specification

Knauf Aquapanel Tyvek® Stuccowrap™ breather membrane

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Aquapanel Exterior

Horizontal expansion joint

Detail 3

- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Horizontal expansion joint (by others)
- Expansion Joint 25mm max.
- Horizontal expansion joint (by others)
- Timber batten fixed as per specification (minimum 60mm fixing face)

- Knauf insulation as per specification
- Knauf Aquapanel Tyvek® Stuccowrap™ breather membrane
- Sheathing board

Base formation

Detail 4

- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Timber batten fixed as per specification
- Stop bead (by others)
- 50mm maximum
- Ventilation section (by others)
- 150mm minimum
- G.L.

- Sheathing board
- Knauf insulation as per specification
- Sole plate
- Levelling mortar
- Damp proof course
- Sealant (by others)
- Foundation

Eave formation

Detail 5

- Ventilation section (by others)
- Stop bead (by others)
- Knauf Aquapanel Exterior Cement Board
- Basecoat reinforcing mesh and top coat (by others)
- Knauf Aquapanel Exterior Stainless Steel Screws SN40
- Timber batten (minimum 60mm fixing face fixed as per specification)
- Timber batten (fixed as per specification)

- Knauf insulation as per specification
- Vapour barrier/ airtight layer
- Knauf insulation as per specification
- Knauf Plasterboard as per specification
- Sheathing board
- Knauf Aquapanel Tyvek® Stuccowrap™ breather membrane

Aquapanel Exterior

Intermediate fixing detail

Structure

Knauf Aquapanel Exterior Tyvek® StuccoWrap™ breather membrane

Knauf Aquapanel Exterior Cement Board

Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

Knauf Aquapanel Exterior Stainless Steel Screws SN40 minimum 15mm from edge of boards (as per specification)

Basecoat reinforcing mesh and top coat render (by others)

Vertical fixing joint

Detail 7

Structure

Knauf Aquapanel Exterior Tyvek® StuccoWrap™ breather membrane

Knauf Aquapanel Exterior Cement Board

Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey

Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

Knauf Aquapanel Exterior Stainless Steel Screws SN40 minimum 15mm from edge of boards (as per specification)

Basecoat reinforcing mesh and top coat render (by others)

Horizontal fixing joint

Detail 8

Knauf Aquapanel Exterior Cement Board

Structure

Knauf Aquapanel Exterior Tyvek® StuccoWrap™ breather membrane

Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey

Knauf Aquapanel Exterior Stainless Steel Screws SN40 minimum 15mm from edge of boards (as per specification)

Basecoat reinforcing mesh and top coat render (by others)

Fixing spacing detail

Detail 9

Knauf Aquapanel Exterior Stainless Steel Screws SN40 minimum 15mm from edge of boards (as per specification)

Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey

Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

Maximum 250mm centres

Corner boards staggering detail

Detail 10

Structure

Knauf Aquapanel Exterior Tyvek® StuccoWrap™ breather membrane

Vertical timber battens at 600mm centres maximum to create suitable cavity (minimum 60mm fixing face) fixed as per specification

Knauf Aquapanel Exterior Stainless Steel Screws SN40 minimum 15mm from edge of boards (as per specification)

Note: Gap between boards 3–5mm maximum. Tape and joint using Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey

Knauf Aquapanel Exterior Cement Board

Boards staggered on the corners

Window ventilation and reinforcing detail

Detail 11

Reinforce window corners with reinforcing mesh (size 500mm x 300mm) applied into basecoat

Knauf Aquapanel Exterior Joint Tape and Knauf Aquapanel Exterior Joint Filler – Grey

Knauf Aquapanel Exterior Cement Board
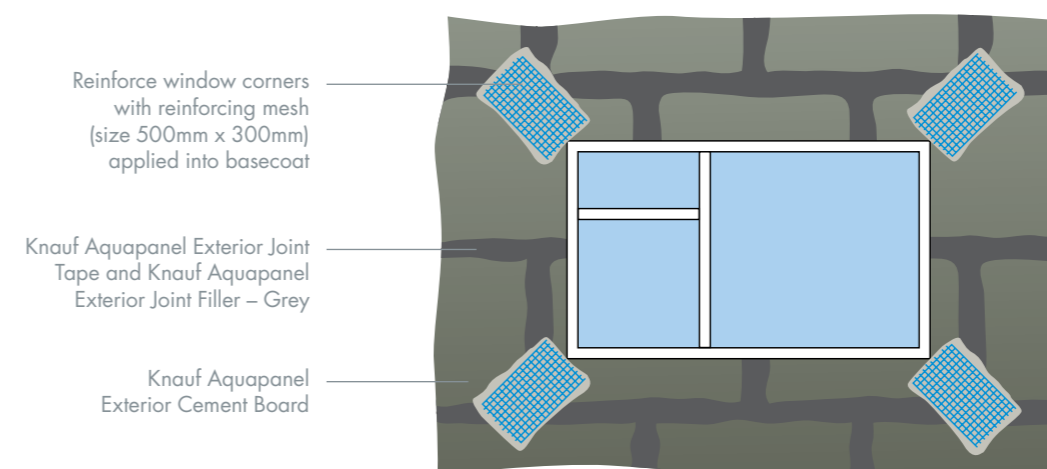
External Soffit Linings

Knauf Aquapanel cement board technology is revolutionising the way buildings are designed and constructed across Europe.

Knauf Aquapanel Exterior cement boards solve the problem of external soffit linings. Designed to be used externally, they are freeze-thaw cycle tested and have been proven in tough European and Scandinavian climates.

Knauf Aquapanel Exterior Soffit Linings

Aquapanel Exterior cement board can be used in semi-exposed environments to create a seamless exterior ceiling, concealing unsightly soffits and services. Installed in the same manner as plasterboard, Knauf Aquapanel Exterior does not require any specialist skills from the contractor.

Extremely strong and freeze-thaw resistant, Knauf Aquapanel Exterior is an aggregated Portland Cement building panel with polymer-coated glass fibre mesh embedded in both surfaces. Developed for use in exposed exterior situations as a ceiling and wall panel, Knauf Aquapanel Exterior is a proven, quality alternative to traditional building materials.

As a completely dry solution, Knauf Aquapanel Exterior cement board is fast to install, being mechanically fixed to exterior grade steelwork, quickly providing a smooth finish to receive an exterior paint as required.

Generate specifications at **www.knauf.co.uk**

Design Freedom

Aquapanel Exterior doesn't just provide an internal ceiling look to the outside of a building, it can also be curved and shaped to form aesthetic external soffit features. Aquapanel Exterior is particularly well suited for applications where an architect wants to create the effect of a ceiling 'flowing through' a glazed external wall.

Proven in harsh climates

Knauf Aquapanel Exterior is inherently resistant to water, so there is no swelling or loss of stability even when wet. It is resistant to weathering, mould and changes of temperature and has a proven freeze-thaw cycle. It has excellent impact resistance, and is safe and hygienic. You can specify Knauf Aquapanel Exterior comfortable in the knowledge that it has been successfully installed externally throughout Europe and Scandinavia, from Norway to Greece.

Strength and versatility

Knauf Aquapanel Exterior is the perfect product to create strong, aesthetically pleasing ceilings to exposed balconies, canopies or multi-storey car parks.

Aquapanel Exterior is suited to any building environment from residential to commercial and institutional.

Once installed, with joints and screwheads filled, Aquapanel Exterior can be left for up to six months before finishing, and easily resists wind tunnel effects in open buildings such as car parks.

Aquapanel Exterior can be quickly cut to shape using the score and snap technique, with no special tools or techniques needed. Compared to traditional exterior systems, Knauf Aquapanel Exterior reduces working time and installation costs.

Further information:

Aquapanel Exterior Brochure: A comprehensive brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

Inside you will find installation and performance details for our range of Aquapanel Exterior solutions.

Typical Knauf External Soffit design detail

- Exterior grade steel frame system (by others) fixed as per specification
- Knauf Aquapanel Exterior Joint Tape
- Knauf Aquapanel Exterior Joint Filler – Grey
- Knauf Aquapanel Exterior Cement Board
- Primer (by others)
- Reinforcing mesh (by others)
- Render basecoat (by others)
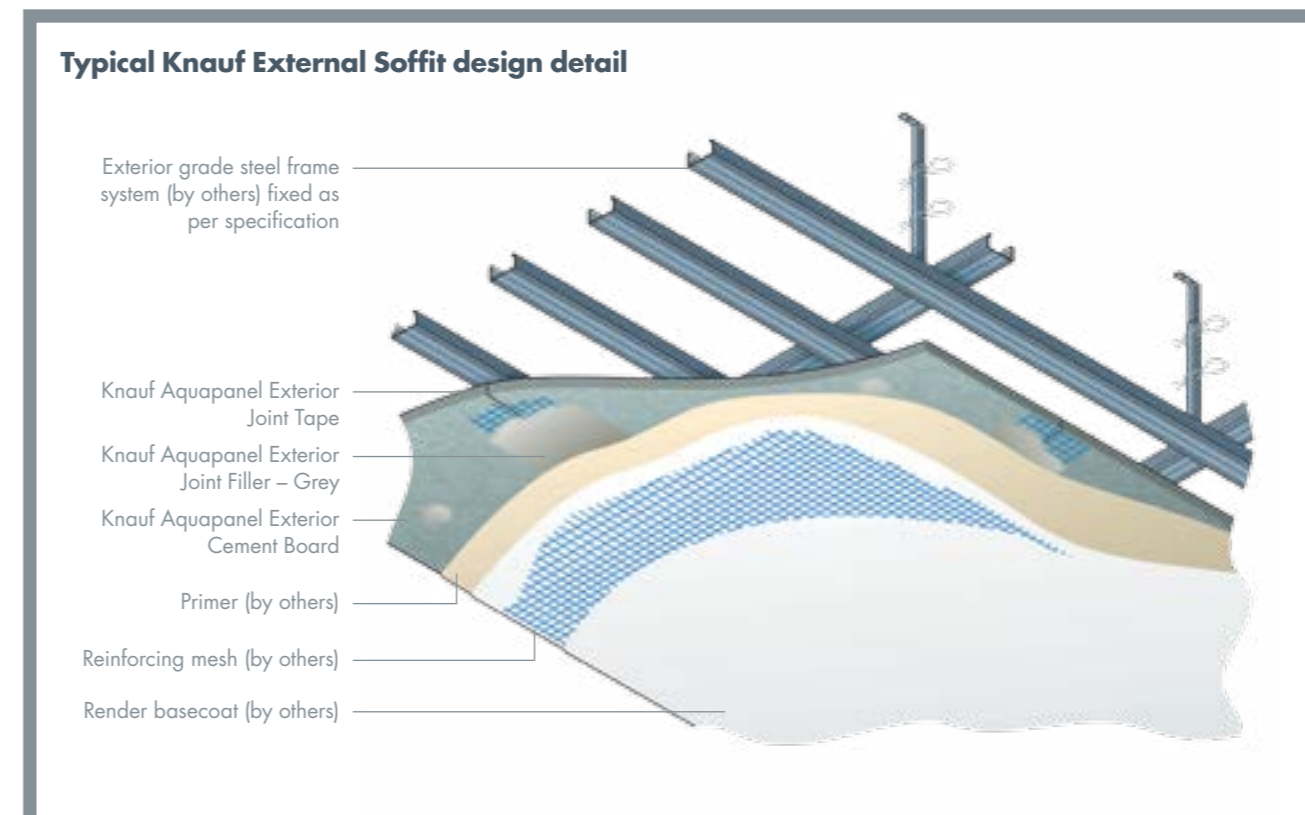
Generate specifications at **www.knauf.co.uk**

Framed building infill

Knauf now also offer complete through the wall infill systems for concrete and steel framed buildings, suitable for both residential and commercial projects. Our accredited BBA Certified systems offer innovative solutions for cold and warm frame construction.

Designers and architects can choose from insulated and non-insulated render, as well as most other external finishes such as brick slips, rain screen cladding, facing bricks/blocks and timber cladding.

These exterior wall systems include our innovative ThermaFrame cold frame solution, which is optimised by the utilisation of our unique thermal stud, and traditional SFS solutions which utilise similar solid stud technology to that which is already well established in the UK market.

All of our facade systems are designed to offer the highest levels of structural thermal, fire and acoustic performance. In order to provide complete peace of mind for our clients, including specifiers and contractors, we have developed a lifetime warranted facade solution. This single source of supply warranty is fully supported by our technical and sales teams, both pre-site and during construction.

For more information please contact Knauf Technical Services.
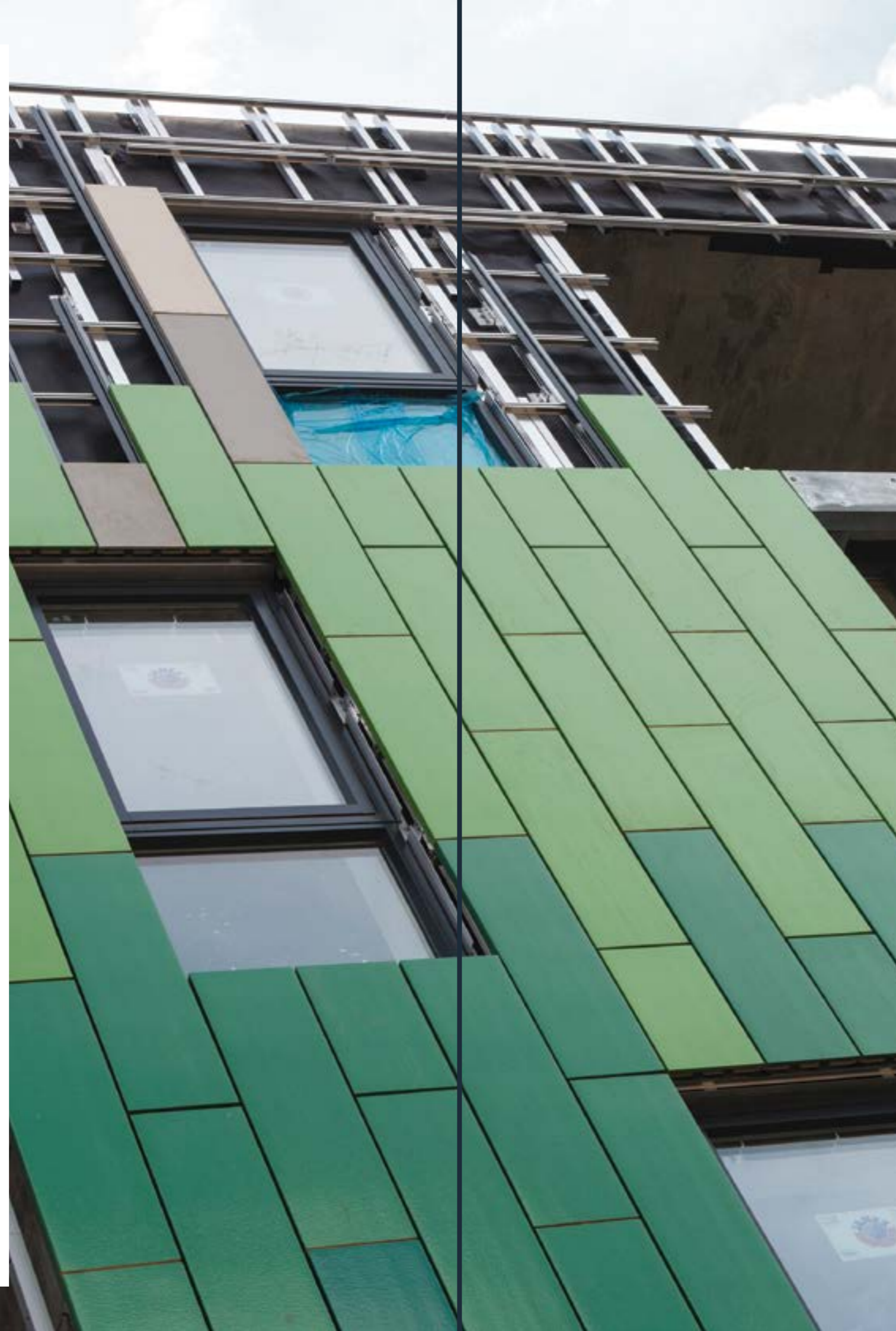
Knauf ThermaFrame System

Knauf ThermaFrame system is designed to meet the thermal requirements of any construction by greatly reducing thermal transfer through the wall and removing the need for external insulation, making U-values as low as 0.15 W/m²K easily achievable.

The Knauf ThermaFrame system is designed to anticipate the future requirements of the Code for Sustainable Homes as well as current Building Regulations and Technical Handbooks. In many cases, ThermaFrame can also reduce the thickness of the overall solution, and so increase the amount of internal space.

The system also enables fast track construction, as a weather-tight external envelope can be erected swiftly so that internal work can start sooner, facilitating an overall faster return on investment for the project and a quicker payback period.

Knauf Standard SFS Infill System
Available for use in ventilated residential and non-ventilated commercial construction.

For more information visit our website www.knauf.co.uk/facades

Encasement

Knauf column and beam encasements are simple and easy to install, typically using the same components used in the partitions and linings on the rest of the project to simplify logistics and provide consistency to finishes.

The Knauf Encasement System can provide up to 2 hours fire protection to steel columns and beams. High performance Knauf Fire Panel plasterboard and Knauf metal components ensure that installation is quick and easy.

- Protects structural steelwork for up to 2 hours load-bearing capacity
- Fast and economical to install
- Simplifies the package, order of work and decoration throughout your project

Knauf Encasement

The Knauf Encasement system uses fast drywall techniques and our proven Knauf Fire Panel plasterboard to provide up to 2 hours fire protection to structural steel columns and beams.

Framing

Knauf 'U' Channel Perimeter Support.

Framing

Knauf Fixing Clip.

Framing

Knauf 'C' Channel.

Knauf Fire Panel

Knauf Fire Panel offers superior fire protection in encasement systems.

Generate specifications at www.knauf.co.uk
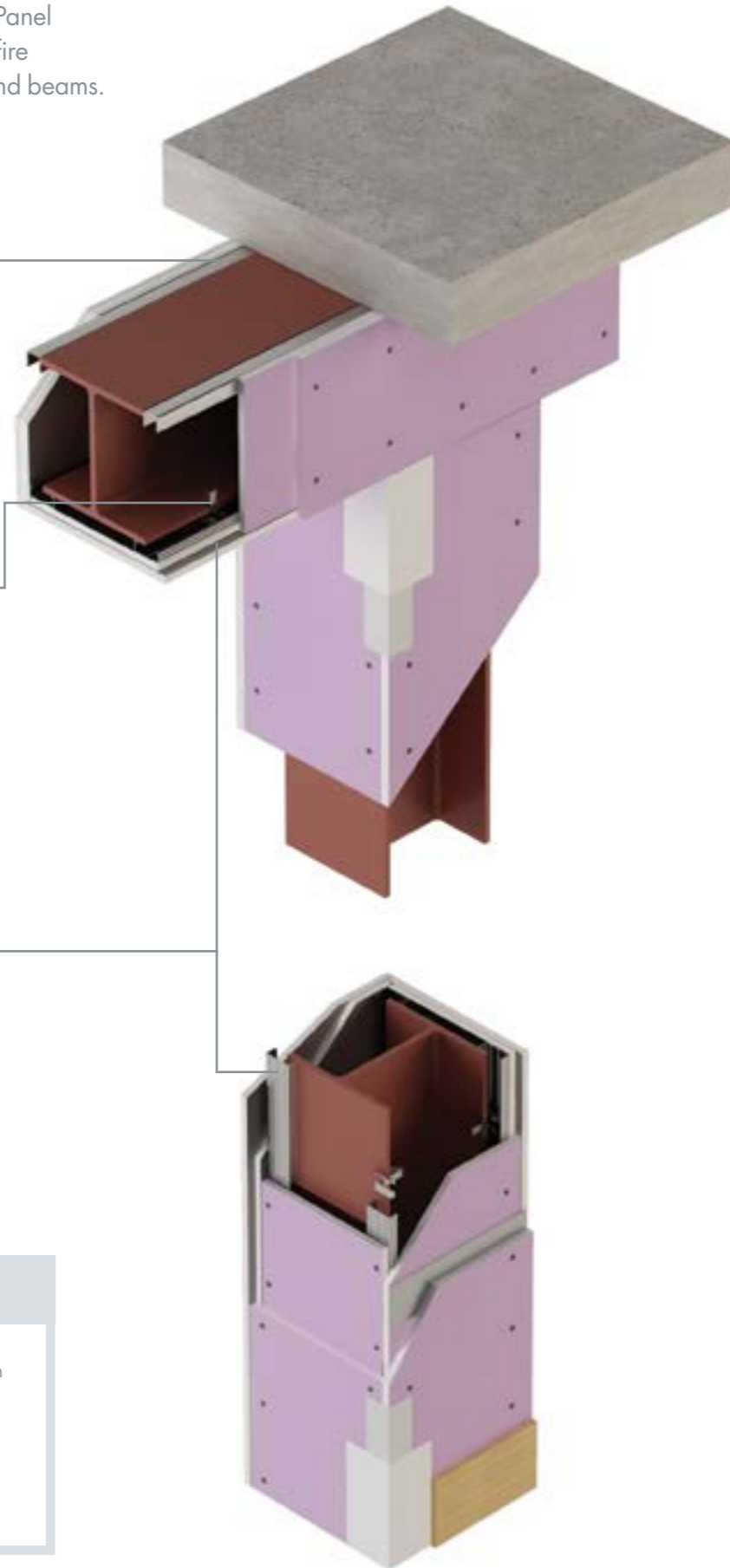
Encasement

Specifying the Knauf Encasement system not only gives you peace of mind that the structural steel is adequately protected, it also simplifies the package, order of work and decoration throughout your project.

Key Features

- Protects structural steelwork for up to 2 hours
- Fast and economical to install
- Maintains the use of Knauf Plasterboard throughout the building ensuring easy and consistent decoration

Other Component

Knauf Intumescent and Acoustic Mastic seals gaps, minimises airborne sound transmission.

Fixings

Knauf Water Head Screws are black-phosphated self-drilling and self-tapping screws with low profile heads.

Knauf Drywall Screws are self-drilling and self-tapping and designed to work perfectly with Knauf Plasterboards.

Jointing

Knauf Corner Flex Tape to provide protection to external corners of encasements.

The Knauf Jointing range ensures that strong, high-quality joints are easy to achieve.

Knauf Encasement

Fire Protection Values

Building Regulations stipulate the period of fire resistance required for any element of building structure. Beams and columns require at least the same standard of fire protection as that required by any element they support.

The temperature rise of structural steelwork under fire test conditions provides a method of computing fire protection thicknesses based on accepted empirical formulae. The rate of increase in temperature of a steel cross-section is determined by the ratio of the heated surface area (A) to the volume (V). This ratio (A/V) has units of m^{-1} and is known as the section factor.

The section factor is a measure of the rate at which a steel element will increase in temperature. The higher the value of the section factor, the faster the element will heat up and therefore the thicker thefire protection required to satisfy a stipulated fire protection period. Section factors for three- and four-sided rectangular encasements are given in the tables opposite, tabulated against universal columns and beams.

The data presented in the Knauf Fire Panel Thickness Table (right) is is cross-related to these tables to establish the board thickness required for different fire ratings.

Establishing Board Thickness

To establish the thickness of Knauf Fire Panel required for steel column and beam encasements, proceed as follows:

- Refer to the tables on the opposite page. Locate the appropriate size of beam or column on the table and read off its section factor depending on whether three- or four-sided protection is required.
- Establish the period of fire resistance required.
- Refer to the table below to determine the thickness of Knauf Fire Panel required.
- For castellated steel beams, refer to the ASFP Publication 'Fire Protection for Structural Steel in Buildings'.

Example:

Requirement: One hour fire protection to 457mm x 191mm x 98 kg/m steel beam with three-sided encasement.

Solution: Section factor A/V (Hp/A) = $90m^{-1}$ (from table opposite). Use single layer of 12.5mm Fire Panel or Performance Plus.

Knauf Fire Panel Thickness Table

A/V (Hp/A) (m⁻¹)

Table showing required board thicknesses for universal steel beams and columns protected with Knauf Fire Panel or Knauf Impact Panel. Tested in accordance with BS 476, Part 21: 1987.

Section factors for Universal Columns

Section size (mm)	Mass per metre (kg)	3 sides A/V (Hp/A) (m⁻¹)	4 sides A/V (Hp/A) (m⁻¹)
356 x 406	634	15	20
	551	20	25
	467	20	30
	393	25	35
	340	30	35
	287	30	45
	235	40	50
356 x 368	202	45	60
	177	50	65
	153	55	75
	129	65	90
305 x 305	283	30	40
	240	35	45
	198	40	50
	158	50	65
	137	55	70
	118	60	85
	97	75	100
254 x 254	167	40	50
	132	50	65
	107	60	75
	89	70	90
	73	80	110
203 x 203	86	60	80
	71	70	95
	60	80	110
	52	95	125
	46	105	140
152 x 152	37	100	135
	30	120	160
	23	155	210

Section factors for Universal Beams

Section size (mm)	Mass per metre (kg)	3 sides A/V (Hp/A) (m⁻¹)	4 sides A/V (Hp/A) (m⁻¹)
914 x 419	388	45	55
	343	50	60
914 x 305	289	60	65
	253	65	75
	224	75	85
	201	80	95
838 x 292	226	70	80
	194	80	90
	176	90	100
762 x 267	197	70	85
	173	80	95
	147	95	110
686 x 254	170	75	90
	152	85	95
	140	90	105
	125	100	115

Section factors for Universal Beams (cont.)

Section size (mm)	Mass per metre (kg)	3 sides A/V (Hp/A) (m⁻¹)	4 sides A/V (Hp/A) (m⁻¹)
610 x 305	238	50	60
	179	70	80
	149	80	95
610 x 229	140	80	95
	125	90	105
	113	100	115
	101	110	130
533 x 210	122	85	95
	109	95	110
	101	100	115
	92	110	125
	82	120	140
457 x 191	98	90	105
	89	100	115
	82	105	125
	74	115	135
	67	130	150
457 x 152	82	105	120
	74	115	130
	67	125	145
	60	140	160
	52	160	180
406 x 178	74	105	125
	67	115	140
	60	130	155
	54	145	170
406 x 140	46	160	185
	39	190	215
356 x 171	67	105	125
	57	120	145
	51	135	160
	45	150	180
356 x 127	39	165	195
	33	195	225
305 x 165	54	115	140
	46	135	160
	40	150	185
305 x 127	48	120	145
	42	140	160
	37	155	180
305 x 102	33	175	200
	28	200	230
	25	225	255
254 x 146	43	120	150
	37	140	170
	31	165	200
254 x 102	28	175	200
	25	190	225
	22	220	255
203 x 133	30	145	180
	25	170	210
203 x 102	23	175	205

Note: Tables from 4th edition Yellow Book, Structural Steel in Building

Knauf Encasement

Installation Procedures

The Knauf Encasement system is designed to be simple and fast to install. Knauf Technical Services are on hand should you have any questions or unusual situations to deal with.

General

The Knauf Encasement system must be installed in full accordance with Knauf's recommendations.

Column Encasement

Four-sided Column Encasement 1, 2 ,3

Cut four lengths of Knauf 'C' Channel to the full height of the column. Attach the Knauf 'C' Channels to the steel column flanges with Knauf Fixing Clips at maximum 1000mm centres.

Cut two boards to suit column size, allowing for 'C' Channel thickness.

Fix the boards to the Knauf 'C' Channels with Knauf Screws at 200mm centres. Note the screws must be at least 10mm longer than the total board thickness.

Partial Column Encasement

Assuming a typical three-sided encasement where one of the column flanges straddles a wall, follow the same procedure as outlined for four-sided encasements with the following difference:

Fix Knauf 'U' Channel – Perimeter Support channels in continuous lengths, to either the abutting wall face or the inner flange of the column. Use appropriate fixings at 600mm centres.

Beam Encasement

Assuming a typical three-sided encasement where a beam is exposed directly below a level soffit, fix Knauf 'U' Channel – Perimeter Support channels to either the adjoining soffit or the top flange of the beam. Install continuous lengths of Knauf 'U' Channel – Perimeter Support channel using appropriate fixings at 600mm centres.

Fix two more continuous lengths of Knauf 'C' Channel with Knauf Fixing Clips at maximum 750mm centres to the bottom.

Cut two boards to suit column size, allowing for 'C' Channel thickness.

Fix the boards to the Knauf 'C' Channels with Knauf Screws at 200mm centres. Note the screws must be at least 10mm longer than the total board thickness.

Double Layer Application

Install the first layer as described for either full or partial encasement.

Secure the second layer to the metal with fixings spaced as for the first layer, but avoid coinciding fixing positions.

The board joints must be staggered as with the first layer between adjoining boards and also between the two layers.

Treatment of Board Joints 4,5,6,7

All joints in outer board layers require additional support, either from a length of Knauf 'C' Channel fixed between the main 'C' Channel supports in the case of single layer systems, or via Knauf Flat Fixing Plate positioned between board layers when a double layer encasement is used. Tape and joint for a seamless finish.

1. Installing Knauf Fixing Clips.
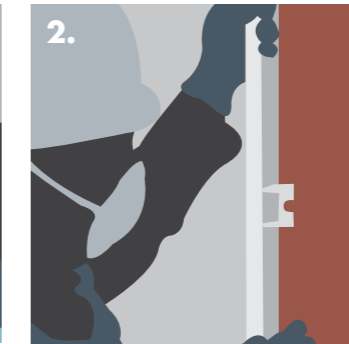
2. Pushing Knauf 'C' Channel into the Knauf Fixing Clips.

3. Fixing Knauf Fire Panel onto the Knauf 'C' Channels.

4. Fixing Knauf Fire Panel to Knauf 'C' Channels for horizontal joints.
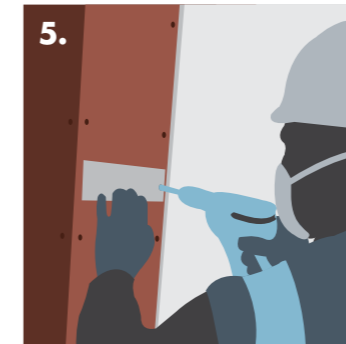
5. Fixing Knauf Flat Fixing Plate between layers.

6. Fixing outer layer of Knauf Fire Panel.

7. Taping and jointing encasement corners

Knauf Training Courses

We offer a range of comprehensive training courses at our purpose-built training schools to ensure the installer is fully up to speed with the latest techniques and regulations. See page 276 for more information.
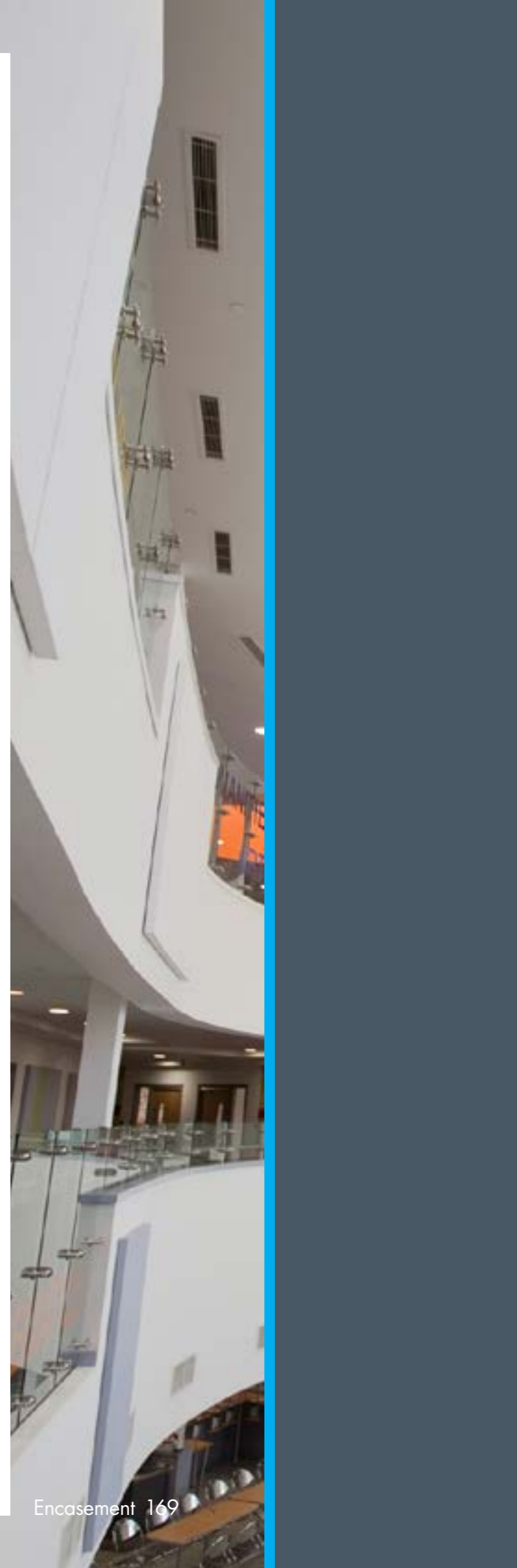
Knauf Encasement

Application Details

These details represent some of the most common design situations relevant to the Knauf Encasement system. Knauf Technical Services can advise on any specific detail you are trying to achieve.
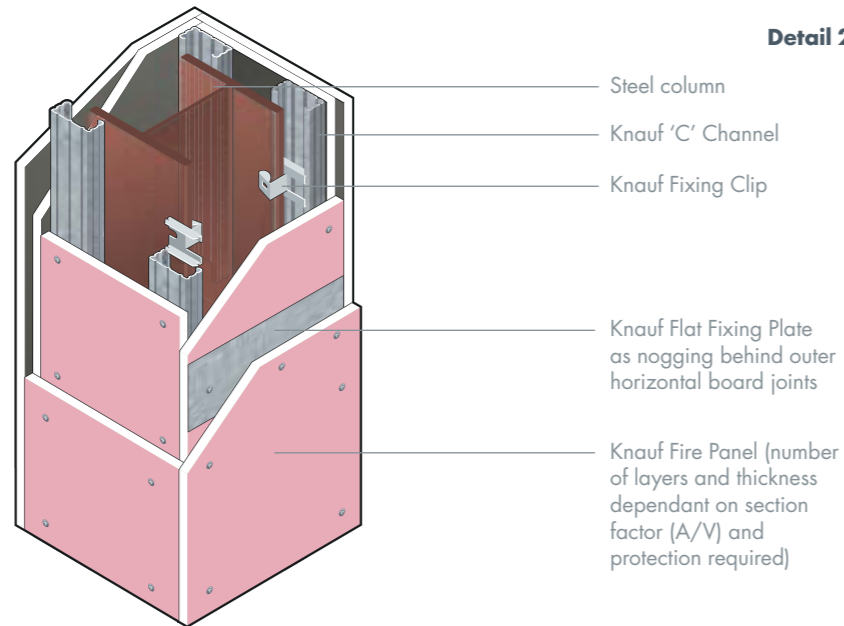

Four-sided encasement – single layer lining

Detail 1

- Steel column
- Knauf Fixing Clip
- Knauf 'C' Channel
- Knauf 'C' Channel as nogging behind horizontal board joints
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Three-sided encasement – single layer lining

Detail 3

- Knauf 'U' Channel – Perimeter Support
- Steel beam
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)
- Knauf 'C' Channel as nogging behind horizontal board joints
- Knauf Fixing Clip

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Four-sided encasement – double layer lining

Detail 2

- Steel column
- Knauf 'C' Channel
- Knauf Fixing Clip
- Knauf Flat Fixing Plate as nogging behind outer horizontal board joints
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)

Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Three-sided encasement – double layer lining

Detail 4

- Knauf 'U' Channel – Perimeter Support
- Steel beam
- Knauf Flat Fixing Plate as nogging behind outer horizontal board joints
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)
- Knauf Fixing Clip
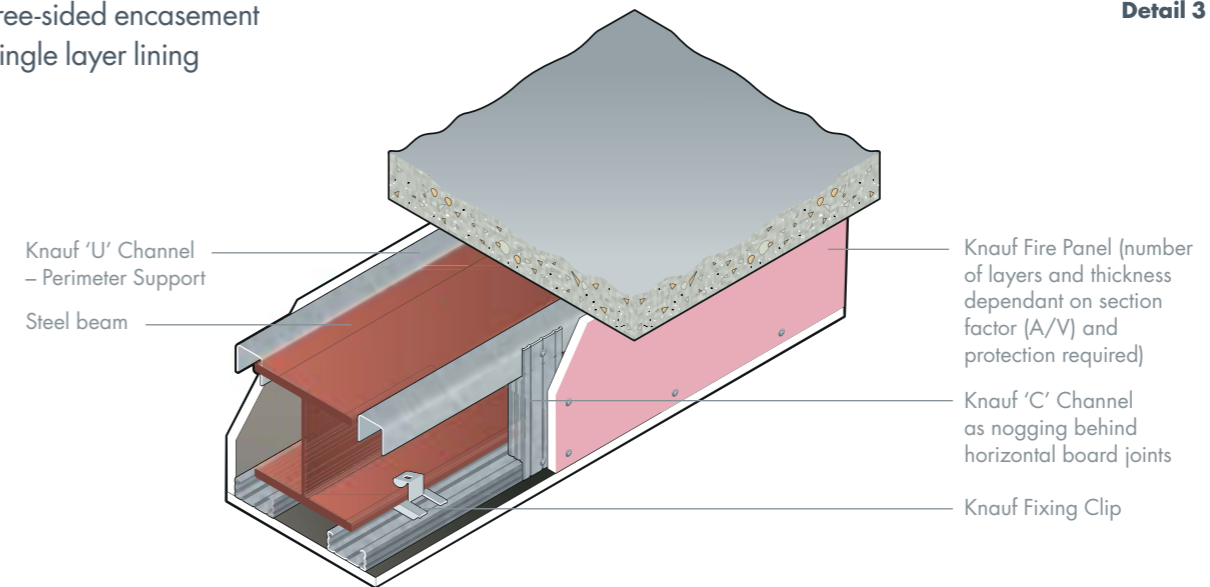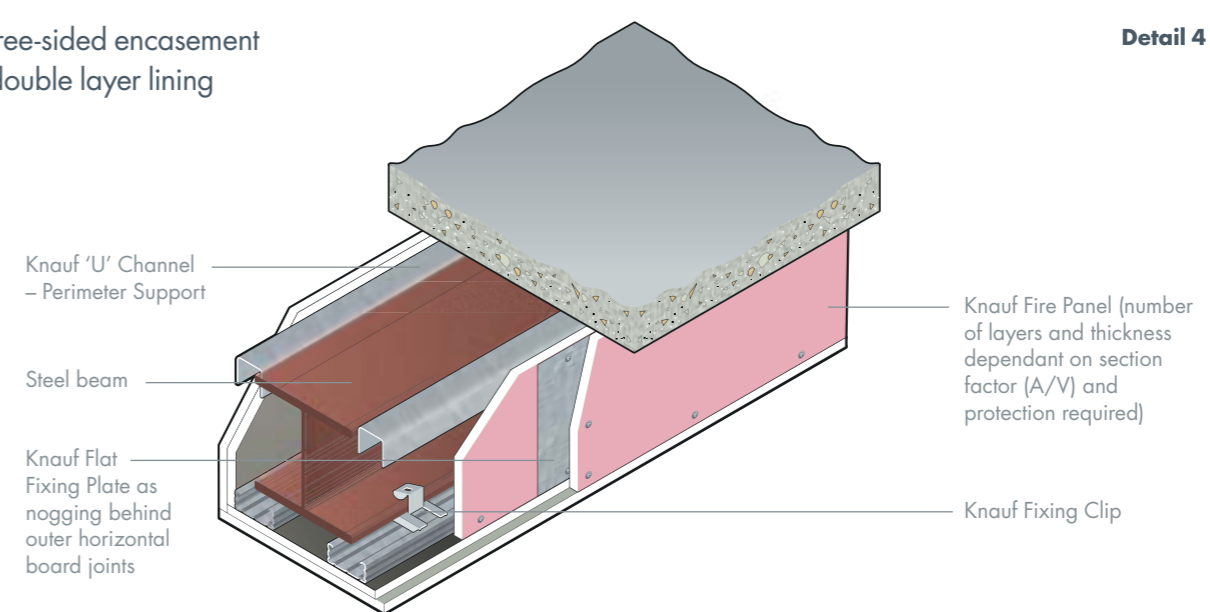
Note: Jointing not shown for clarity. A Knauf Encasement System must be taped and jointed.

Where you see these icons in a detail, that detail is particularly relevant to that sector.

Knauf Encasement

Three-sided encasement – plan

Detail 5

- Knauf Intumescent and Acoustic Mastic
- Knauf Nailable Plug or suitable fixing at 600mm centres
- Masonry wall
- Knauf Independent 'I' Stud Wall Lining
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)
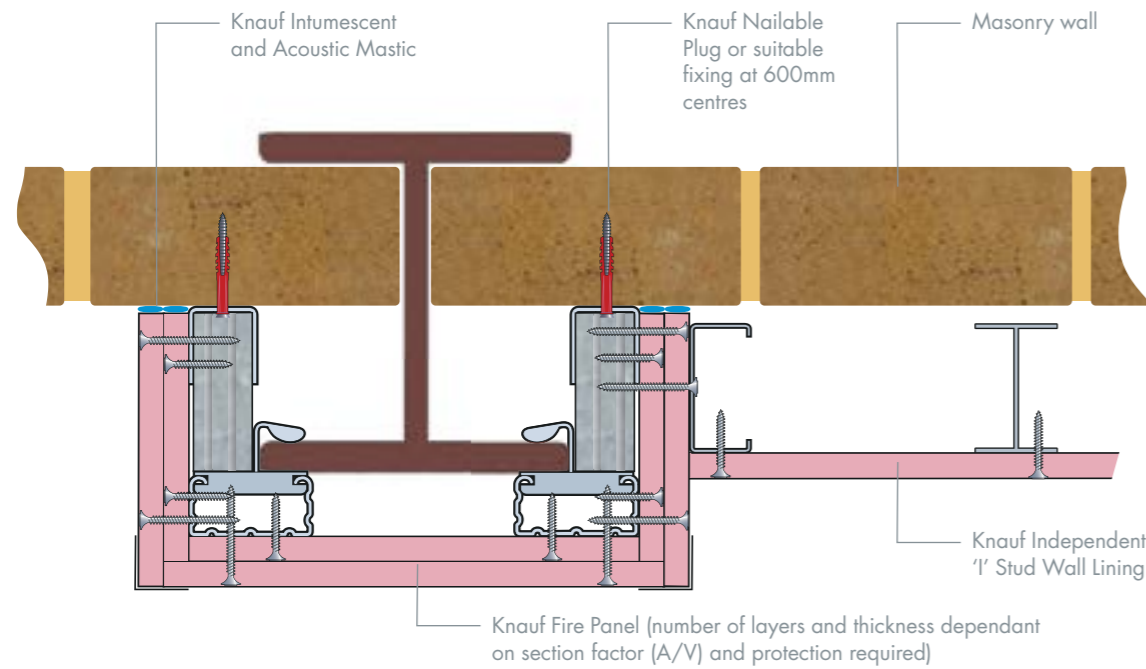
Partition abutment – plan

Detail 6

- Steel beam
- Knauf 'C' Channel
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)
- Knauf Performer partition as per specification
- Knauf Fixing Clip
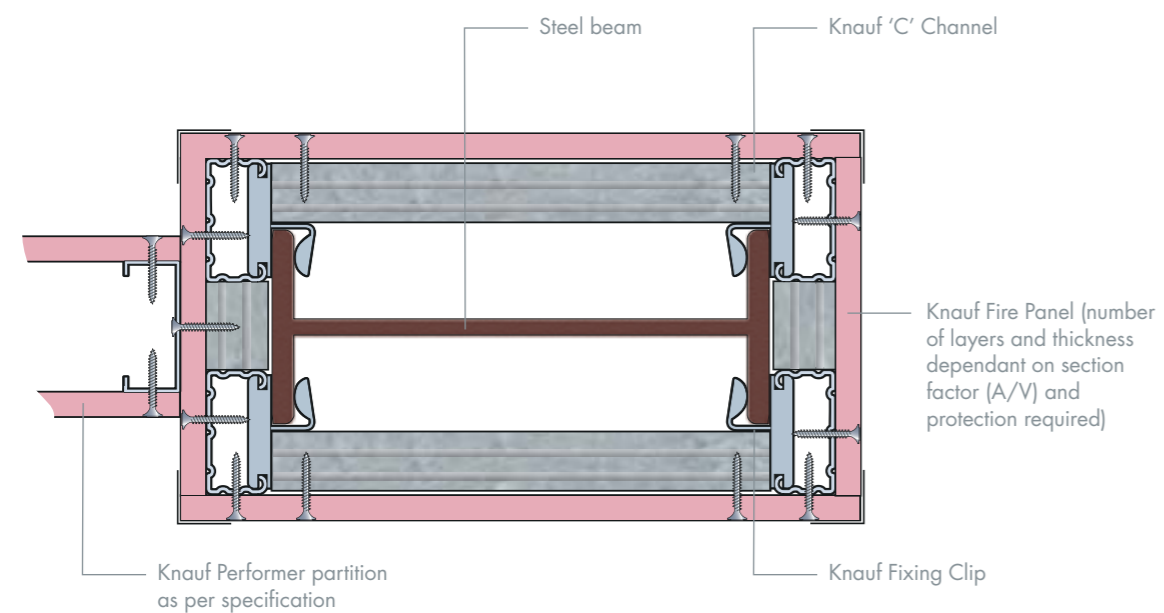
Partition abutment – elevation

Detail 7

- Knauf Intumescent and Acoustic Mastic
- Steel beam
- Knauf Nailable Plug or suitable fixing at 600mm centres
- Knauf 'U' Channel – Perimeter Support
- Knauf Fire Panel (number of layers and thickness dependant on section factor (A/V) and protection required)
- Knauf Fixing Clip
- Knauf Corner Flex Tape
- Knauf Performer partition as per specification
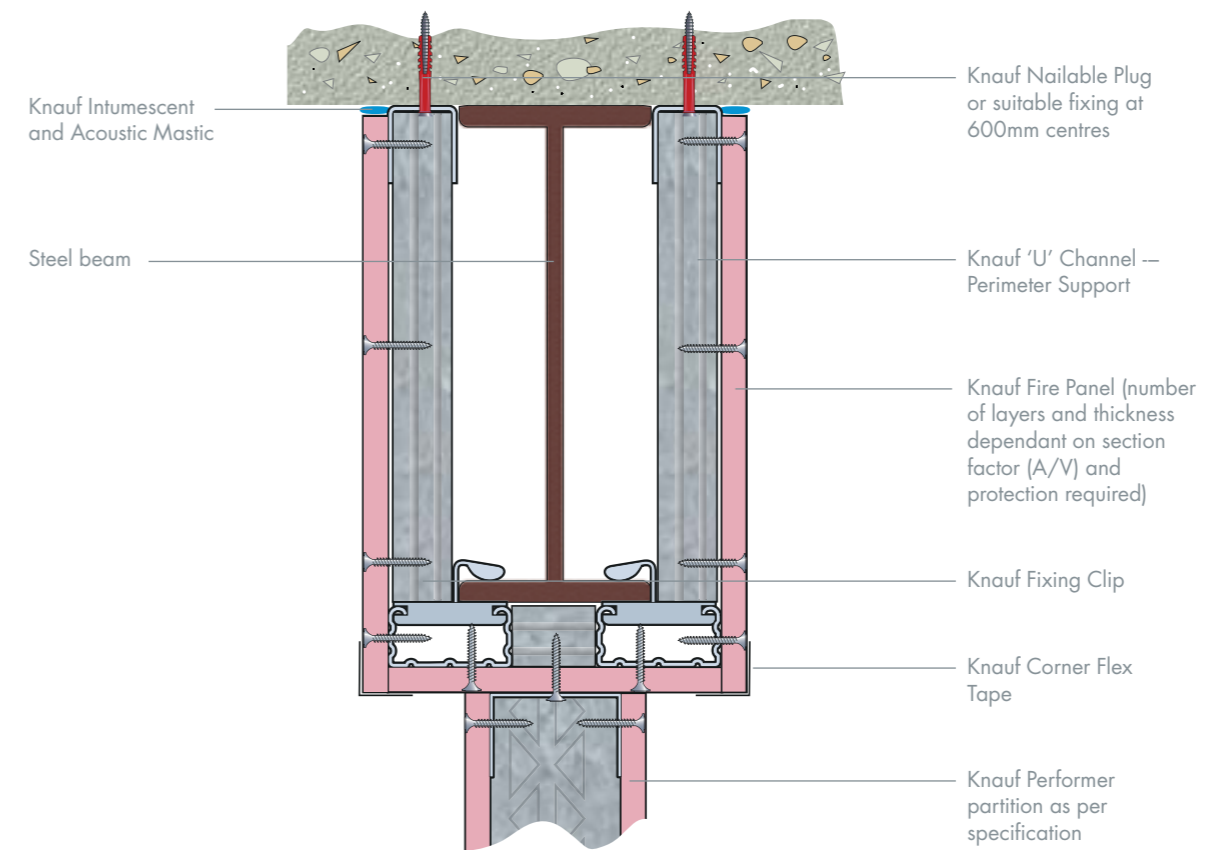
Specialist Systems

We research, develop, test and refine our products to provide you with high-performance, sustainable and easy-to-install solutions tailored to your needs – whether that includes coping with moisture, sound, fire, impact or more unusual requirements.

This section details our specialist systems that can give your project a genuine performance edge while retaining all the aesthetic and installation flexibility that modern construction demands; Knauf Aquapanel Interior tile backing systems can be completely saturated without losing any performance; seamless Apertura perforated boards offering endless design opportunities with exceptional sound absorption properties; and Knauf Safeboard bringing X-ray protection together with fire and acoustic performance in one easy-to-install board.

X-Ray Partitions
with Knauf Safeboard

Knauf Safeboard is an X-ray shielding plasterboard with a barium sulphate core. It effectively and significantly reduces the amount of lead needed within X-ray shielding partitions, in many cases removing the need for lead altogether.

Knauf Safeboard brings X-ray protection together with fire and acoustic performance in one easy-to-install board. Knauf Safeboard is simple to install as it can be scored and snapped like a standard plasterboard. Knauf Safeboard Joint Filler is used to fill joints to complete the radiation shield.

The flexibility to redesign interior layouts and to build-in changes of use to rooms is increasingly important when considering modern, future-adaptable healthcare projects. Knauf X-Ray Partitions can be inexpensively designed to suit mobile X-ray apparatus, and can be retro-fitted or removed far more easily than traditional lead-lined partitions.

How does it work?

What's in it?
The special ingredient is barium sulphate, a radio contrasting agent able to create a barrier for electromagnetic radiation of specific frequencies.

How does it work?
As with a barium meal, where the X-rays hit the barium and the image shown gives a silhouette of the specific area of interest, Knauf Safeboard is filled with enough of this material to effectively block X-rays across its entire area.

How consistent is it?
Due to significant investment in manufacturing techniques, every single square metre of Knauf Safeboard is tested thoroughly to ensure that the stated level of X-ray shielding will be achieved. There is no degradation of performance during the lifetime of the product, so you can be confident it will shield these potentially harmful rays first time and every time.

How does it compare to traditional lead protection?
All material provides a degree of X-ray protection, this is termed 'lead equivalence'. At 100 kV, 1.4mm of lead is equivalent to:

- 112mm of reinforced concrete
- 280mm of gypsum board
- 378mm of aerated concrete
- 25mm of Knauf Safeboard

How is it specified?
Understandably, shielding X-rays requires special consideration. Ensure that where necessary you engage a Radiation Protection Advisor (RPA). If it's a larger project, it's likely it will require an accompanying Radiation Protection Report.

The report gives a 'lead code', which relates to the thickness of lead required. Where Knauf Safeboard differs to lead is that there are differing requirements based on the output of the X-ray source (measured in kV). The table below gives an indication of the number of layers of Knauf Safeboard required in a partition when compared to its lead equivalent.

Step One
Receive a lead code and/or a lead thickness from the Radiation Protection Advisor.

Code 3	Code 4	Code 5	Code 6	Code 7
1.32mm	1.80mm	2.21mm	2.65mm	3.15mm

Note: Should you require protection not covered in the table above, please contact our Technical Services Department on 01795 416259.

Step Two
Identify the output of the X-ray source (in kV).
Note: The above information is required in order to specify Knauf Safeboard.

Step Three
Cross-reference the lead thickness or lead code with the X-ray output to show the required number of Safeboard layers in a partition.

60kV	70kV	80kV	90kV	
0.45	0.60	0.75	0.70	1 layer
0.90	1.20	1.50	1.40	2 layers
1.35	1.80	2.20	2.10	3 layers
1.80	2.30	2.90	2.80	4 layers

100kV	125kV	150kV	
0.70	0.50	0.40	1 layer
1.40	1.00	0.80	2 layers
2.10	1.50	1.10	3 layers
2.80	2.00	1.40	4 layers
3.40	2.40	1.70	5 layers
4.00	2.80	2.00	6 layers

Safeboard

Knauf X-Ray Partitions incorporate the revolutionary Knauf Safeboard into a Knauf Performer partition system to provide protection from X-ray radiation without the need for lead. Our X-Ray Partitions are light, easy to install and safe.

Head Track

Knauf 'U' Channel secured to the soffit forms head track.

Knauf Deep Flange 'U' Channel for deflection head details.

Insulation

Knauf Earthwool Acoustic Roll can be used to improve the acoustic performance.

Knauf Safeboard

Knauf Safeboard brings X-ray protection together with fire and acoustic performance in one easy-to-install board.

Jointing

Knauf Safeboard Joint Filler is used to fill joints and cover screw heads to complete the radiation shield.

Floor Track

Knauf 'U' Channel is secured to the floor and used to frame out openings.

Studs

Knauf metal studs simply twist and snap into head and floor tracks.

Knauf 'C' Stud lightweight steel section.

Knauf 'I' Stud allows taller, stiffer partitions.

Fixings

Knauf Drywall Screws are self-tapping and self-drilling and designed to work perfectly with Knauf Safeboard.

Knauf Safeboard is also suitable for wall lining installations
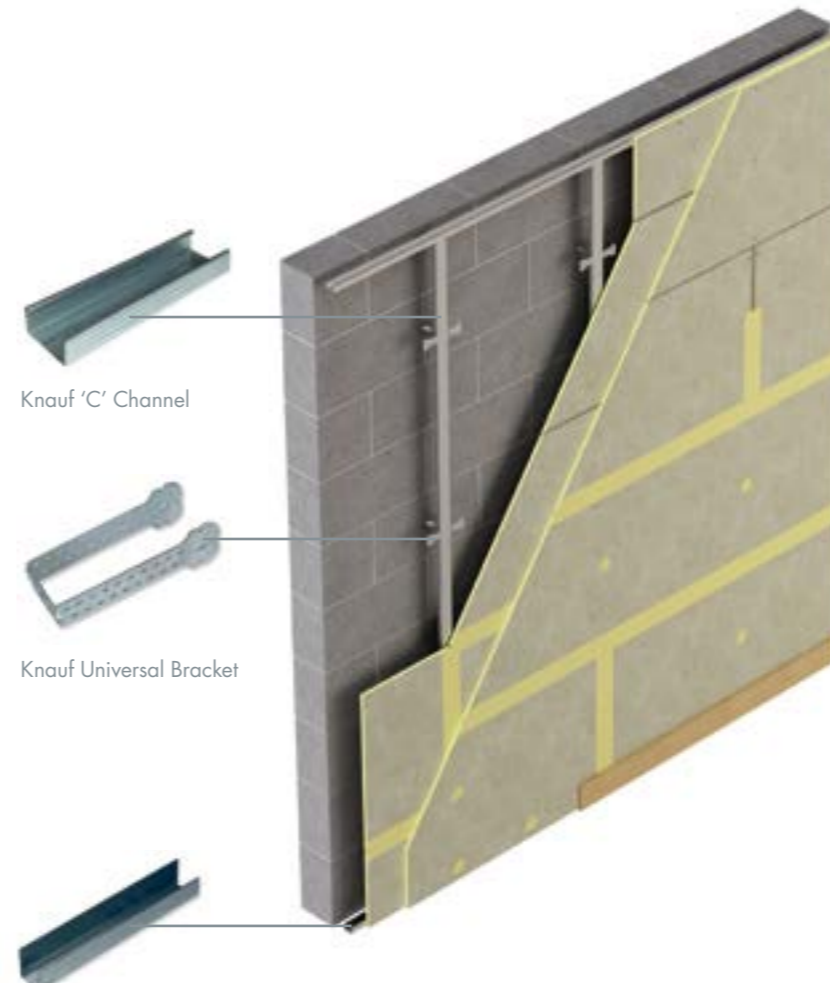
Knauf 'C' Channel

Knauf Universal Bracket

Knauf 'U' Channel Perimeter Support.

Generate specifications at www.knauf.co.uk

Safeboard

Application Details

These details represent some of the most common design situations relevant to the Knauf Safeboard system. Knauf Technical Services can advise on any specific detail you are trying to achieve.

Typical Knauf X-Ray Partition detail (4 layer system)

Detail 1

- Knauf Safeboard Joint Filler
- Knauf Sealant
- Knauf 'C' or 'I' Studs depending on specification
- 2 layers of 12.5mm Knauf Safeboard
- Knauf Drywall Screws at 300mm centres
- Knauf 'U' Channel
- Knauf Safeboard Joint Filler

Knauf Safeboard socket box detail (AA)

Detail 2

- Knauf 'C' Stud as per specification
- 12.5mm Knauf Safeboard fixed horizontally across stud frame
- Knauf Safeboard Joint Filler
- Fire rated partitions use Knauf Putty Pads inside or outside depending on sequence of works
- Socket box (by others)
- 12.5mm Knauf Safeboard enclosing the socket with the same number of layers as the main wall lining
- Knauf Drywall Screws

Min 500mm
Socket box
A — — A
Min 500mm
Socket box

Knauf Safeboard socket box elevation
Knauf Safeboard is installed within the cavity behind the socket box and should run from floor to a minimum of 500mm past the socket.

Generate specifications at **www.knauf.co.uk**

Safeboard

Performance information

All Knauf X-Ray Partitions or lining utilise high-quality, purpose-designed Knauf Safeboard, Knauf Studs and Channels and Knauf Accessories. These components are carefully matched to realise the performances detailed below and are tested together as a whole system. Insisting on genuine Knauf components throughout will ensure your Knauf X-Ray Partition or lining is fully covered by our performance warranty.

Knauf Safeboard performance information

Safeboard S1/13	Sound	Fire*	Max Height**	Width
1 layer of 12.5mm Knauf Safeboard either side of 70mm Knauf 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	51dB (R$_w$)	30 mins	3600mm	97mm

Independent I Stud Lining IWLC7/13	Sound	Fire*	Max Height**	Width
2 layers of 12.5mm Knauf Safeboard either side of 70mm Knauf 'C' Studs at 600mm centres with 25mm Knauf Earthwool Acoustic Roll within the cavity	59dB (R$_w$)	60 mins	4600mm	122mm

* Fire rating quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.

Safeboard

Installation Procedures

Knauf X-Ray Partitions offer a safe, modern alternative to traditional techniques and reduce the need for specialist construction skills as they are installed in a similar way to traditional plasterboard partitions.
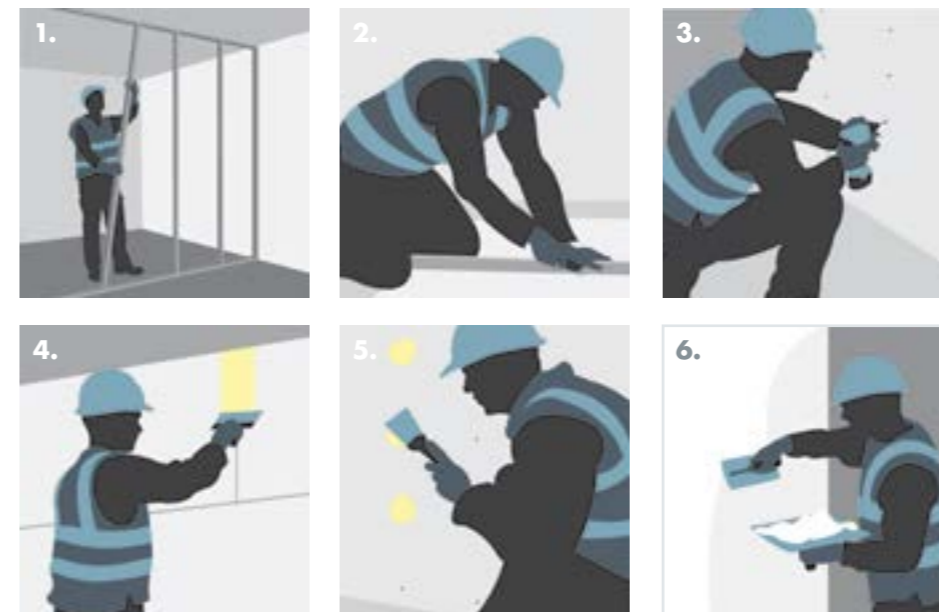
Framework 1

For the best results, we recommend the use of lightweight metal Knauf 'C' or 'I' Studs. Studs should be positioned within the channels to coincide with the abutments of the boards and at centres dependant on the performance requirement, maximum of 600mm.

Cutting Knauf Safeboard 2

Knauf Safeboard is easily and accurately cut using a coarse bladed saw, or as you would with standard plasterboard, simply score and snap. Score one side with a sharp knife, cutting through the paper. Snap the board along the score and then cut through the paper on the other side. Smooth any rough areas caused by scoring with a rasp.

Fixing Knauf Safeboard 3

All boards are to be fixed horizontally. Knauf Safeboard should be screwed to the framework with Knauf Drywall Screws at maximum 300mm centres, reduced to 200mm centres at the corners.

Ensure all vertical and horizontal board joints are staggered on each layer of a multi-layer system, and on each side of a partition. Vertical joints should be staggered by at least one stud spacing, and horizontal joints by half a board width.

Jointing 4, 5

All joints, screw heads, and surface defects should be filled with Knauf Safeboard Joint Filler. If installing a multi-layer system the joints and screw heads on all layers should be filled. No tape is required for jointing Knauf Safeboard. Remove excess filler after 50 minutes in order to achieve a flat surface.

Finishing 6

Once a flawless surface has been achieved Knauf Safeboard can be finished in the same way as any plasterboard. It can be skimmed with Knauf MPFinish, or the joints can be over-coated and feathered out with Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand, followed by a coat of Knauf Wallboard Primer prior to decoration.

Wet Area Partitions

Knauf Aquapanel Interior cement boards will not deteriorate in water and they are resistant to mould and mildew. They add an extra dimension to Knauf Performer Partitions, making them the ideal wet area solution.

Knauf Aquapanel Performer Partitions are designed for full or part tiled situations in commercial non-loadbearing applications. They use fast drywall construction techniques and can be specified for high traffic wet areas.

These systems use Knauf Aquapanel Interior cement board to receive tiles or Knauf Aquapanel Interior Skim, with moisture resistant Knauf Sound Moisture Panel for the non-wet area side of the partition, if applicable.

The boards are fixed onto Knauf Acoustic 'C' Studs using the same techniques as other Knauf Performer partition systems. This results in a tough partition that won't be damaged by water, ensuring any tiles fitted are protected from failure.

Design freedom
Knauf Aquapanel Performer partitions can be curved to create aesthetic walls and can support heavy marble tiles up to 50kg/m². For a non-tiled finish, where applicable, use Aquapanel Interior Skim as a ready-to-use water-resistant skim coat.

Knauf Aquapanel cement board technology is revolutionising the way buildings are designed and constructed across Europe.

Developed by Knauf USG Systems, Aquapanel Interior cement board gives architects and contractors a proven alternative to brick and block construction in interior applications – where it offers significant performance advantages in wet and high humidity areas together with lower installation costs.

The Aquapanel cement board brand represents a range of extremely durable building materials providing solid substrates for wet areas with solutions for interior and exterior walls, linings, ceilings and floors.

AQUAPANEL®

Typical Knauf Aquapanel Performer detail:

Corner formation and nib

- Knauf Aquapanel Maxi Screw
- Knauf Aquapanel cement board
- Knauf Acoustic 'C' Stud
- Knauf Aquapanel Maxi Screw
- Knauf Acoustic 'C' Stud

Please Note:
Aquapanel Interior is tiled onto the smooth side of the board.
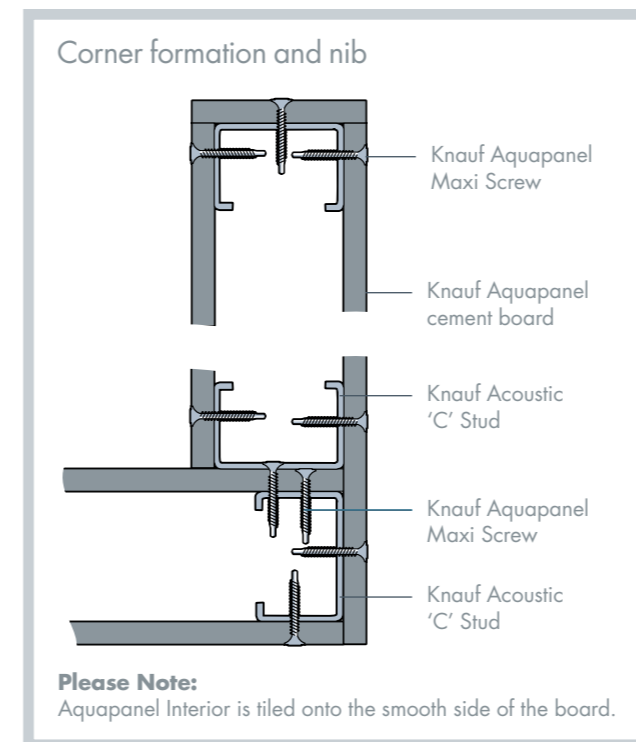
Increased productivity and reduced call-backs
Knauf Aquapanel Interior is exceptionally tough and durable, providing a solid tile backing substrate for wet indoor areas such as swimming pools, leisure centres, changing rooms, toilet areas, laundries, bathrooms and kitchens.

Knauf Aquapanel Performer partitions deliver productivity gains by eliminating the time-consuming methods usually associated with specialised building methods and materials. With its unique score and snap facility Aquapanel Interior is easy to cut – making installation quick and simple.

The revolutionary EasyEdge design feature of Aquapanel Interior in conjunction with polyurethane Aquapanel Joint Adhesive improves adhesion between boards, resulting in a stronger structure.

Knauf Aquapanel Interior is ready-keyed for tiling, so no priming is required. More on-site time savings result from the dry installation system. Overall productivity gains are reflected in shorter job schedules and lower in-place costs.

Avoid expensive tile failures
Tile failure is extremely costly in all instances. With traditional materials, if a tile fails in a wet area you would normally expect the substrate behind to be damaged as well. Not only are there replacement costs of materials, but for many commercial and leisure applications tile failure may necessitate closing part of the premises.

Knauf Aquapanel Interior systems provide the peace of mind that results from specifying a partition or lining that is specifically designed for the job. Galvanised metal components, special screws and high-quality Aquapanel cement board linings ensure that Aquapanel systems are easy to install and continue to perform, even when wet.

Long-term, specifying Knauf Aquapanel Performer partitions results in a significant reduction in costly call-backs and reduced maintenance. Tiled areas are expensive and the small investment required to upgrade to Knauf Aquapanel Performer partitions is quickly recouped through minimising future costs.

Aquapanel Interior brochure
A comprehensive Aquapanel Interior brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

Inside you will find installation and performance details for our range of Aquapanel Performer partitions and Aquapanel Interior linings.

Note: When used in a swimming pool environment all metal components need to be pre-coated galvanised profiles and manufactured to comply with EN 13964; products with a continuously hotdip metal coating Z100 – an additional 20 micron organic coating per face.

Other Aquapanel systems:
Exterior Cladding	146
External Soffit Linings	158
Tiled Floor Linings	192

Knauf Aquapanel Interior

Knauf Aquapanel Interior cement board is exceptionally tough and durable, providing a solid tile backing substrate for wet indoor areas such as swimming pools, leisure centres, changing rooms, toilet areas, laundries, bathrooms and kitchens.

Head Track
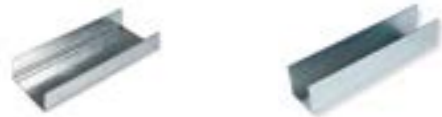
Knauf 'U' Channel secured to the soffit forms head track.

Knauf Deep Flange 'U' Channel for deflection head details.

Stud

Knauf Acoustic 'C' Studs are lightweight steel sections used to form the vertical frame of the Knauf Aquapanel Interior partitions.

Boards

Knauf Aquapanel Interior partitions can be tiled on one or both sides

Knauf Performance Plus for non-tiled side.

Knauf Aquapanel Interior cement board for use in wet and humid areas.

Generate specifications at **www.knauf.co.uk**

Floor Track

Knauf 'U' Channel is secured to the floor and used to frame out openings.

Knauf Aquapanel Interior partitions

Knauf Aquapanel Interior partitions are designed for full or part tiled situations in commercial non-loadbearing applications. They use fast drywall construction techniques and can be specified with confidence in wet areas.

Key Features

- Will not deteriorate in water
- Supports tiles up to 50kg/m^2
- Resistant to mould and mildew
- Tough, strong and impact resistant
- Easy to cut and install

Other Component

Knauf Sealant – used to seal gaps to prevent airborne transmission of sound and vibration.

Fixings

Knauf Aquapanel Maxi Screws are corrosion resistant and designed for fixing Knauf Aquapanel Interior cement boards.

Jointing

Knauf Aquapanel Interior Joint Adhesive – PU gun-applied adhesive used for jointing Knauf Aquapanel Interior cement boards.

* For smaller domestic jobs where studs are 450mm centres maximum Knauf Aquapanel Interior Tape can be bedded in tile adhesive to reinforce joints. For more information refer to the Knauf Aquapanel Interior brochure, or Knauf Technical Services.

Our range of Partition Solutions includes:

Performer	16
Silent Spacesaver	48
Isolator	60
Shaftwall	72

Knauf Aquapanel Interior

Performance information

Knauf Aquapanel Interior systems provide the peace of mind that results from specifying a partition or lining that is specifically designed for the job. Galvanised metal components, specialist screws and high-quality Knauf Aquapanel Interior cement board linings ensure that Knauf Aquapanel Interior partitions are easy to install and continue to perform, even when wet.

Knauf Aquapanel Interior Performance Information

Aquapanel AI1/11	Sound	Fire*	Max Height**	Width
12.5mm Knauf Aquapanel Interior to each side of 50mm Knauf Acoustic 'C' Studs at 600mm centres with 50mm Knauf Earthwool Acoustic Roll within the cavity	44dB(Rw)	–	2700mm	77mm
Aquapanel AI2/13	**Sound**	**Fire***	**Max Height****	**Width**
12.5mm Knauf Aquapanel Interior to wet room side of 50mm Knauf Acoustic 'C' Studs at 600mm centres and 12.5mm Knauf Performance Plus to the room side with 50mm Knauf Earthwool Acoustic Roll within the cavity	45dB(Rw)	–	2700mm	77mm
Aquapanel AI3/11	**Sound**	**Fire***	**Max Height****	**Width**
12.5mm Knauf Aquapanel Interior to each side of 70mm Knauf Acoustic 'C' Studs at 600mm centres with 50mm Knauf Universal Slab RS33 within the cavity	44dB(Rw)	30mins	3600mm	97mm
Aquapanel AI4/13	**Sound**	**Fire***	**Max Height****	**Width**
12.5mm Knauf Aquapanel Interior to wet room side of 70mm Knauf Acoustic 'C' Studs at 600mm centres and 12.5mm Knauf Performance Plus to the room side with 50mm Knauf Universal Slab RS33 within the cavity	45dB(Rw)	30mins	3600mm	97mm
Aquapanel AI5/13	**Sound**	**Fire***	**Max Height****	**Width**
12.5mm Knauf Aquapanel Interior to wet room side of 70mm. Knauf Acoustic 'C' Stud and 2 x 12.5mm Knauf Performance Plus to the room side with 50mm Knauf Universal Slab RS33 within the cavity	48dB(Rw)	60mins	3600mm	109.5mm

*   Fire rating quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.
** Maximum heights calculated based on a limiting deflection of L/240 at 200Pa.

Other Aquapanel Systems:

Exterior Cladding	146
External Soffit Linings	158
Tiled Floor Linings	192

Further information:

A comprehensive Aquapanel Interior brochure is available free from our literature line – call 08700 613700 for your copy, or you can download a copy from our website: www.knauf.co.uk

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Knauf Aquapanel Interior

Installation procedure – large commercial projects

For larger commercial applications, such as changing rooms and leisure centres, Knauf Aquapanel Interior commercial systems use an innovative glued joint system to allow 600mm stud centres with no loss in performance. Please contact Knauf Technical Services for further information.

Framework 1

We recommend the use of lightweight metal Knauf Acoustic 'C' Studs. Using metal studs ensures accuracy, and they will not move or twist due to shrinkage or water ingress. In either case, set studs at maximum 600mm centres.

Align the board 2

Knauf Aquapanel Interior Cement Boards are laid horizontally. Start at one end and align the first board along the studs. Secure the board with Knauf Aquapanel Maxi Screws (SN) at maximum 250mm centres, ensuring that the screws are at least 15mm from the board edge. Do not overdrive the screws.

Clean the adjacent board edges 3

In order to ensure that maximum adhesion is achieved when jointing, the adjacent edges of the fixed board and the next board in sequence must be cleaned. Simply clean the edges with a wet brush to remove traces of dust – the edges do not need to be soaked.

Applying adhesive 4

Using a suitable gun, apply a continuous bead of Knauf Interior Aquapanel Joint Adhesive to the adjacent edge of the fixed board(s). The bead should be of sufficient size to fill the joint fully when the next board is offered up.

Important note: Knauf Aquapanel Interior Joint Adhesive must be applied before the next board is fixed, not after.

Place the next board 5

Align the next board and push it firmly into the bed of adhesive. The gap between boards should be less than 1mm. Secure the board with Knauf Aquapanel Maxi Screws (SN).

Continue the process

Continue to clean the adjacent edges, apply Knauf Aquapanel Interior Joint Adhesive and place and secure the next board.

Leave adhesive to dry

In order to achieve a strong bond and to form a complete joint, the Knauf Aquapanel Interior Joint Adhesive needs to be left to cure and expand before the excess can be scraped off.

Scrape off the excess adhesive 6

Scrape off the excess Knauf Aquapanel Interior Joint Adhesive the next day using a flexible steel scraper.

Knauf Aquapanel Interior

Installation procedure – domestic/small commercial projects

Knauf Aquapanel Interior systems can be designed to meet the requirements of Approved Document E and can be installed with either treated timber or metal studs. Knauf Aquapanel Interior is jointed with tile adhesive and Knauf Aquapanel Interior Joint Tape prior to tiling. Below are the installation instructions for domestic/small commercial projects using the Knauf Aquapanel Interior system.

Framework 1

For the best results, we recommend the use of lightweight metal Knauf Acoustic 'C' Studs. Using metal studs ensures accuracy, and they will not move or twist due to shrinkage or water ingress. In any case, set studs at maximum 450mm centres.

Cutting Knauf Aquapanel Interior Cement Board 2,3

Knauf Aquapanel Interior is easily and accurately cut using a coarse bladed saw, or by simply scoring and snapping. Score one side with a sharp knife, cutting through the mesh. Snap the board along the score, then cut through mesh on other side. Smooth any rough areas caused by scoring with a rasp.

Fixing Knauf Aquapanel Interior 4

Knauf Aquapanel Interior should be screwed to the framework at maximum 250mm centres, with screws 15mm from the board edge. Use 25mm Knauf Aquapanel Maxi Screws (SN) if fixing into metal studs, and 40mm Knauf Aquapanel Interior Screws if fixing into timber studs. Ensure all joints between boards are staggered and leave a 3mm gap.

Generate specifications at www.knauf.co.uk

Reinforcing joints 5

All joints should be filled with flexible tile adhesive, and Knauf Aquapanel Interior Joint Tape embedded into the wet adhesive.

Tiling 6

Always use a quality polymer modified based flexible tile adhesive, following the manufacturer's instructions. Tile on the smooth side of the board.

Sealing interfaces

Permanently flexible sealant should be used at corners, at wall to floor connections, around penetrations, and at interfaces with baths and shower trays, in combination with sealing tape in wet areas.

Tiled Floor Linings

Knauf Aquapanel Floor Tile Underlay is a strong, thin cement board that is unaffected by water, making it the ideal thin substrate for tiles onto subfloors.

Professionals have been installing Knauf Aquapanel Interior Cement Board in wet areas for many years, knowing it is the most effective way to stop the causes of tile failure. Now Knauf Aquapanel Interior technology is available in a thin tile underlay for floors.

Traditional plywood methods of tile backing can warp and cause tile failure. Knauf Aquapanel Floor Tile Underlay is completely unaffected by water, virtually eliminating these problems.

At only 6mm thick, room height is not compromised. Knauf Aquapanel Floor Tile Underlay boards and components are non-organic, so there is no chance of mould or fungus growth. You can use Knauf Aquapanel with the confidence that you're using the most suitable product for the job.

Get smart about tile underlay
Knauf Aquapanel Floor Tile Underlay is made from tough Portland cement and has a coated glass fibre mesh embedded in the core. Not only does this give excellent stability, it also enables the installer to score and snap using standard tools.

For ease of handling Knauf Aquapanel Floor Tile Underlay comes in a convenient 900mm x 1200mm size and only weighs 8kg, making it simple to lift and transport.

Ease of installation, ease of handling and total confidence in performance make Knauf Aquapanel Floor Tile Underlay the only choice to protect your tiles.

Refurbishments
Knauf Aquapanel Floor Tile Underlay provides an easy solution for refurbishments where a tiled floor is desired, allowing a very thin floor construction to be maintained and providing an instant flat, keyed surface for new tiles.

Tile failure
Tile failure can be extremely costly and if traditional materials have been used the result is often replacement of the substrate behind the tiles, as well as the tiles themselves.
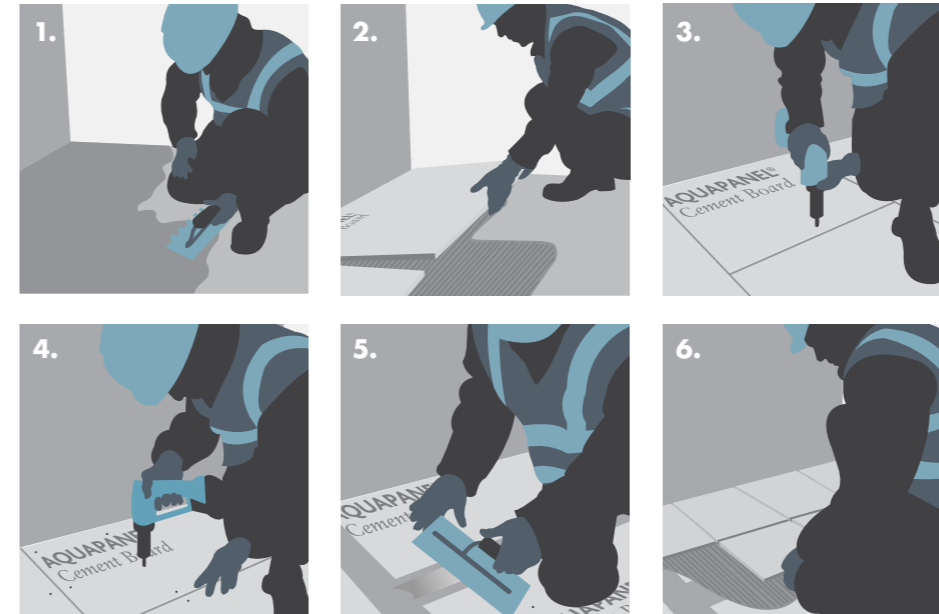
Apply adhesive 1
Apply a complete bed of flexible tile adhesive (class C2/S1 acc. EN 12004/12002) to the subfloor, in accordance with manufacturer's guidelines.

Lay the boards 2
The first Knauf Aquapanel Floor Tile Underlay board should be fitted in the corner farthest from the door. Ensure the panel is laid in such a way that the joints are staggered between the Knauf Floor Tile Underlay board and the subfloor (minimum 200mm staggering). No two joints should coincide.

Mechanically fix the boards 3
Leave a gap of 3–5mm between each board and screw the board to the subfloor using Knauf Aquapanel Maxi Screws (SN) 25.

Screwing the boards 4
The screws should be spaced 250mm or less in all directions. Ensure the distance from the edge of the board is at least 15mm. Avoid cross joints.

Joint the boards 5
Fill all the joints with flexible tile adhesive (class C2/S1 acc. EN 12004/12002), then embed Knauf Aquapanel Joint Tape. Allow for the adhesive in the joints to dry.

Lay Tiles 6
Lay tiles directly onto the Knauf Aquapanel Floor Tile Underlay using a complete bed of flexible tile adhesive (class C2/S1 acc. EN 12004/12002), in accordance with manufacturer's guidelines.

Why specify Aquapanel Floor Tile Underlay?
- Minimum effect on floor height at only 6mm thick
- Suitable for all kinds of tiles including ceramic, mosaic and natural stone
- Light and easy for the installer to handle
- Solid portland cement substrate
- Incorporates shock-proof EasyEdge edge on both sides
- Will not deteriorate in water
- Resistant to mould and mildew
- Quick and simple score and snap cutting, and no pre-drilling required

Aquapanel Floor Tile Underlay is quick and easy to install and has minimal impact on floor height.

Knauf Apertura

The smart choice for stylish acoustic solutions.

Knauf Apertura perforated plasterboard is the ideal solution for large public spaces in retail centres, office complexes, hospitals, schools, showrooms, conference halls and galleries. Combining unrivalled sound absorption performance and attractive design in one easy-to-install board.

Knauf Apertura reduces noise reverberation while enhancing the design of any space. Sixteen different perforation styles give the specifier complete creative freedom, while the tested and proven sound absorption performance gives complete confidence.

Seamless aesthetics

Knauf Apertura boards when used with Knauf Uniflott create a strong, tapeless jointing system which offers a seamless quality of finish that simply cannot be achieved with tiles.

Knauf Apertura boards have an FF edge profile, which has a lapped edge on two sides of the panel. This helps to ensure boards are correctly spaced and limits bulging of the paper liner under humidity. The unique FF edge detail reduces the depth of the joint between boards and closes it on three sides. This leads to a stronger joint and a reduced risk of cracking while optimising consumption of Knauf Uniflott filler to reduce material and water use on site. Knauf Apertura FF edges are also pre-primed and have a slight bevel, further reducing installation time.

The precise board dimensions, innovative edge profile and special fixing tools ensure that the proper perforation distance is always achieved along the length of the board edges. Perforation patterns can therefore be perfectly aligned, creating a mesmerising effect over long runs – the hallmark of Knauf Apertura.

Knauf Apertura, FF board edge profile

Stylish lines

Knauf Apertura Linear offers the fastest installation of any acoustic plasterboard system available, the ideal choice for school and commercial building renovation and other time-critical applications.

The industry-leading installation speed is made possible by the unique edge design, with precision-engineered butt joints on all four edges of the board. Apertura Linear boards butt together quickly and easily, allowing perfect alignment of perforation patterns in a fraction of the time.

Knauf Apertura Linear also requires no jointing so the potential cost, time and mess implications of filling joints above head height are eliminated. Even screw heads need no finishing as the system uses the innovative Knauf Apertura Linear Cap, which fixes boards securely and discretely through the circular perforations.

The result is a striking grid design which can be finished immediately after installation. No filling of joints or screw heads means no water is used on site and impacts on other trades are reduced to a minimum.

Knauf Apertura Linear, board edge profile

Unrivalled acoustic performance

Knauf Apertura plasterboards are used in conjunction with either Knauf Apertura Wall Liner or Knauf MF Ceiling to build fully-warranted acoustic systems with unbeatable sound absorption performances.

Both systems use fast drywall construction techniques and can be specified with confidence in public areas.
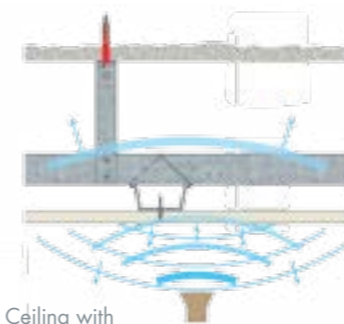
Knauf MF Ceiling with Knauf Plasterboard
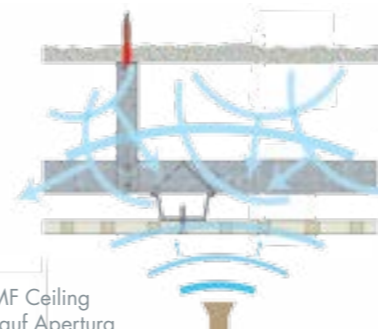
Knauf MF Ceiling with Knauf Apertura

How it works

Knauf Apertura perforated and patterned boards are designed to absorb sound (reverberant) energy. The holes in Knauf Apertura allow noise to pass through but its path is disrupted, taking energy out on its return and reducing echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using Knauf Insulation or adjusting the void depth.

Achieving a performance class rating

The rate of absorption is classified in accordance with BS EN ISO 11654, giving each Apertura pattern a class rating.

Regulations such as Approved Document E for residential, BB 93 for schools and HTM 08-01 for hospitals give guidance on the performance required.

Knauf Apertura ceiling systems achieve a minimum Class D sound absorption performance with a void depth of just 65mm. Increasing the void depth and adding insulation with select boards can improve the sound absorption performance up to an industry-leading Class B.

The following pages detail the sound absorption performance of the different perforations and patterns available.

Knauf Apertura systems

Knauf Apertura systems give you the freedom to carefully control the acoustic properties of a room while creating stunning aesthetics.

Metal components

Knauf MF Connecting Clip.

Knauf Hangers

Knauf Strap Hanger.

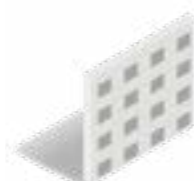Knauf Angle Section.

Metal components

Knauf MF Channel.

Metal components

Knauf MF Primary Support Channel.

Knauf Apertura boards

Knauf Apertura.

Knauf Apertura Linear.

Generate specifications at **www.knauf.co.uk**

Other components

Knauf Apertura installation kit.

Knauf Drywall Screws.

Knauf Apertura Linear Caps.

Knauf MF Nut and Bolt.

Knauf Jointing

Knauf Uniflott.

Knauf Uniflott Applicator.

Knauf Apertura is also suitable for wall lining installations

Knauf Apertura 'U' Mounting Bracket.

Knauf Apertura 'C' Channel.

Knauf Apertura 'U' Channel Perimeter Support.

Perforated Apertura: Circular

Perforated Apertura: Circular 6/18

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.20	0.30	0.45	0.55	0.45	0.45	Class D
65mm with insulation*		0.35	0.45	0.50	0.50	0.45	0.50	Class D
200mm		0.40	0.45	0.50	0.45	0.40	0.50	Class D
200mm with insulation*		0.40	0.45	0.50	0.45	0.45	0.50	Class D
400mm		0.40	0.45	0.45	0.45	0.45	0.50	Class D
400mm with insulation*		0.40	0.45	0.45	0.50	0.45	0.50	Class D
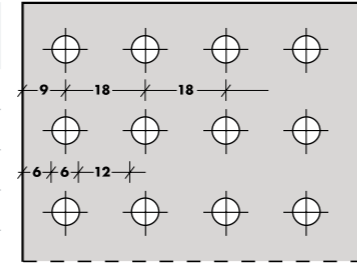
Area of perforation 8.7%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1188mm
Length 1998mm
Weight 10.7 kg/m^2

FF Material No.
White Lining 94387
Black Lining 94386

Perforated Apertura: Circular 8/18

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.75	0.65	0.60	Class C
65mm with insulation*		0.35	0.55	0.70	0.75	0.65	0.65	Class C
200mm		0.45	0.60	0.70	0.60	0.55	0.65	Class C
200mm with insulation*		0.50	0.65	0.70	0.65	0.60	0.70	Class C
400mm		0.55	0.65	0.65	0.60	0.55	0.65	Class C
400mm with insulation*		0.55	0.65	0.65	0.65	0.60	0.65	Class C
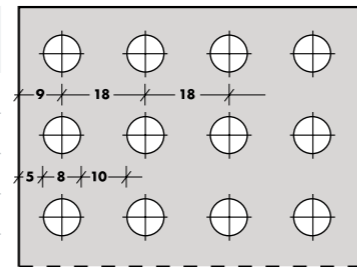
Area of perforation 15.5%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1188mm
Length 1998mm
Weight 9.9 kg/m^2

FF Material No.
White Lining 94397
Black Lining 94394

Linear Material No.
White Lining 146210
Black Lining 146208

Perforated Apertura: Circular 10/23

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.70	0.65	0.60	Class C
65mm with insulation*		0.35	0.55	0.70	0.70	0.60	0.65	Class C
200mm		0.45	0.60	0.65	0.60	0.55	0.60	Class C
200mm with insulation*		0.50	0.65	0.70	0.65	0.60	0.65	Class C
400mm		0.55	0.65	0.60	0.60	0.55	0.60	Class C
400mm with insulation*		0.55	0.65	0.60	0.65	0.60	0.65	Class C
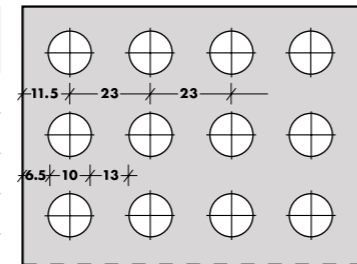
Area of perforation 14.8%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1196mm
Length 2001mm
Weight 9.9 kg/m^2

FF Material No.
White Lining 94421
Black Lining 94420

Linear Material No.
White Lining 146213
Black Lining 146212

Generate specifications at www.knauf.co.uk

Perforated Apertura: Circular 12/25

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.80	0.70	0.55	Class C
65mm with insulation*		0.30	0.55	0.75	0.80	0.70	0.60	Class C
200mm		0.45	0.65	0.75	0.65	0.60	0.60	Class C
200mm with insulation*		0.50	0.70	0.75	0.70	0.65	0.65	Class C
400mm		0.55	0.70	0.65	0.65	0.60	0.60	Class C
400mm with insulation*		0.55	0.65	0.70	0.75	0.65	0.65	Class C
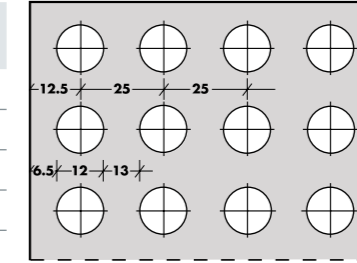
Area of perforation 18.1%

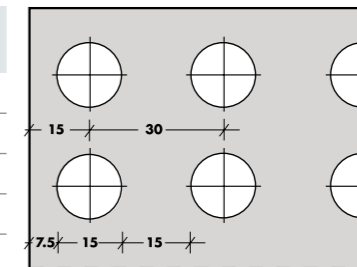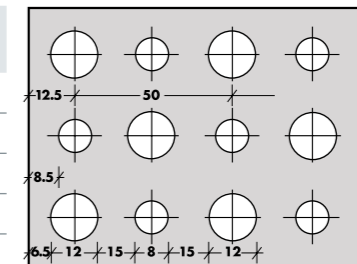* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 2000mm
Weight 9.6 kg/m^2

FF Material No.
White Lining 94429
Black Lining 94428

Linear Material No.
White Lining 146217
Black Lining 146215

Perforated Apertura: Circular 15/30

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.80	0.65	0.60	Class C
65mm with insulation*		0.30	0.55	0.80	0.80	0.65	0.65	Class C
200mm		0.45	0.65	0.75	0.65	0.60	0.60	Class C
200mm with insulation*		0.50	0.70	0.75	0.70	0.65	0.65	Class C
400mm		0.55	0.70	0.65	0.65	0.60	0.60	Class C
400mm with insulation*		0.55	0.70	0.65	0.75	0.65	0.65	Class C

Area of perforation 19.6%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 1980mm
Weight 9.3 kg/m^2

FF Material No.
White Lining 94446
Black Lining 94445

Perforated Apertura: Circular 8/12/50

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.70	0.60	0.50	Class C
65mm with insulation*		0.35	0.55	0.70	0.70	0.60	0.50	Class C
200mm		0.45	0.60	0.65	0.60	0.50	0.55	Class C
200mm with insulation*		0.50	0.65	0.65	0.65	0.55	0.55	Class C
400mm		0.55	0.65	0.60	0.60	0.55	0.55	Class C
400mm with insulation*		0.55	0.65	0.60	0.65	0.55	0.55	Class C

Area of perforation 13.1%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 2000mm
Weight 10.2 kg/m^2

FF Material No.
White Lining 94465
Black Lining 94464

Generate specifications at www.knauf.co.uk

Perforated Apertura: Circular/Random

Perforated Apertura: Circular 12/20/66

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.10	0.30	0.60	0.80	0.60	0.55	Class C
65mm with insulation*		0.30	0.55	0.80	0.85	0.60	0.65	Class C
200mm		0.45	0.65	0.80	0.65	0.50	0.60	Class C
200mm with insulation*		0.55	0.70	0.80	0.75	0.60	0.65	Class C
400mm		0.60	0.70	0.65	0.65	0.55	0.60	Class C
400mm with insulation*		0.60	0.70	0.70	0.80	0.60	0.65	Class C
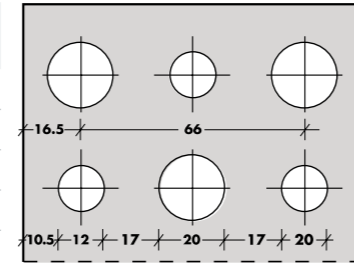
Area of perforation 19.6%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1188mm
Length 1980mm
Weight 9.4 kg/m²

FF Material No.
White Lining 94475
Black Lining 94474

Linear Material No.
White Lining 146221
Black Lining 146220

Perforated Apertura: Random 8/15/20

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.50	0.60	0.45	0.45	Class D
65mm with insulation*		0.35	0.45	0.55	0.55	0.40	0.45	Class D
200mm		0.40	0.50	0.55	0.50	0.40	0.40	Class D
200mm with insulation*		0.45	0.50	0.55	0.50	0.40	0.50	Class D
400mm		0.45	0.50	0.50	0.50	0.40	0.45	Class D
400mm with insulation*		0.45	0.50	0.50	0.55	0.45	0.45	Class D
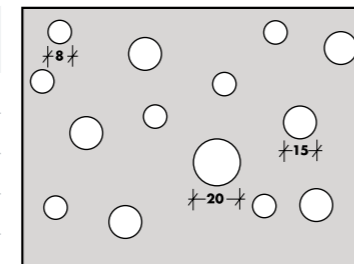
Area of perforation 9.9%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 1875mm
Weight 10.5 kg/m²

FF Material No.
White Lining 94484
Black Lining 94483

Perforated Apertura: Random 12/20/35

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.55	0.55	0.40	0.35	Class D
65mm with insulation*		0.35	0.50	0.65	0.55	0.35	0.35	Class D
200mm		0.40	0.50	0.60	0.45	0.35	0.35	Class D
200mm with insulation*		0.45	0.55	0.60	0.50	0.35	0.40	Class D
400mm		0.45	0.55	0.55	0.45	0.35	0.35	Class D
400mm with insulation*		0.45	0.50	0.55	0.50	0.35	0.40	Class D
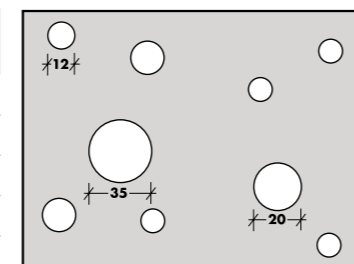
Area of perforation 9.8%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 1875mm
Weight 10.5 kg/m²

FF Material No.
White Lining 94496
Black Lining 94495

Generate specifications at www.knauf.co.uk

Perforated Apertura: Square

Perforated Apertura: Square 8/18

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.10	0.30	0.60	0.80	0.70	0.65	Class C
65mm with insulation*		0.30	0.55	0.80	0.80	0.70	0.75	Class C
200mm		0.45	0.65	0.75	0.65	0.60	0.70	Class C
200mm with insulation*		0.55	0.70	0.75	0.70	0.70	0.75	Class C
400mm		0.55	0.70	0.65	0.65	0.60	0.70	Class C
400mm with insulation*		0.60	0.70	0.70	0.75	0.70	0.75	Class C
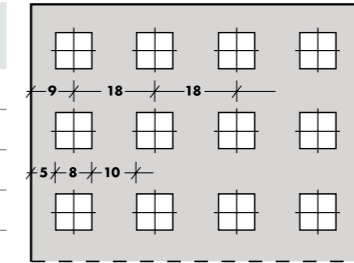
Area of perforation 19.8%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1188mm
Length 1998mm
Weight 9.4 kg/m²

FF Material No.
White Lining 94413
Black Lining 94412

Perforated Apertura: Square 12/25

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.10	0.30	0.60	0.80	0.75	0.60	Class C
65mm with insulation*		0.30	0.60	0.85	0.90	0.75	0.70	Class B
200mm		0.50	0.70	0.80	0.70	0.65	0.65	Class C
200mm with insulation*		0.55	0.75	0.80	0.75	0.75	0.75	Class B
400mm		0.60	0.75	0.65	0.70	0.65	0.60	Class C
400mm with insulation*		0.60	0.75	0.70	0.80	0.75	0.70	Class C
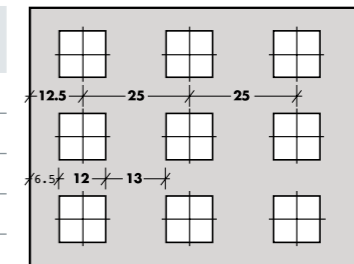
Area of perforation 23.0%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 2000mm
Weight 9.2 kg/m²

FF Material No.
White Lining 94438
Black Lining 94437

Generate specifications at www.knauf.co.uk

Patterned Apertura: Square/Slotted

Patterned Apertura: Acoustic Square Type B4

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.35	0.55	0.65	0.55	0.45	Class D
65mm with insulation*		0.35	0.55	0.70	0.65	0.55	0.50	Class C
200mm		0.45	0.60	0.65	0.55	0.50	0.45	Class D
200mm with insulation*		0.50	0.60	0.65	0.60	0.55	0.50	Class C
400mm		0.50	0.60	0.55	0.55	0.50	0.45	Class D
400mm with insulation*		0.55	0.60	0.60	0.60	0.55	0.50	Class C

Area of perforation 14.4%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

FF Material No.
White Lining 286412
Black Lining 286413
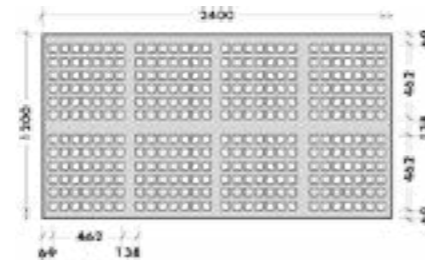
Patterned Apertura: Acoustic Square Type B6

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.30	0.60	0.70	0.60	0.45	Class D
65mm with insulation*		0.35	0.55	0.75	0.75	0.60	0.55	Class C
200mm		0.50	0.65	0.70	0.60	0.55	0.50	Class C
200mm with insulation*		0.55	0.65	0.70	0.65	0.60	0.55	Class C
400mm		0.55	0.65	0.60	0.60	0.55	0.50	Class C
400mm with insulation*		0.55	0.65	0.65	0.65	0.60	0.55	Class C

Area of perforation 16.3%

* 25mm Knauf Earthwool Acoustic Roll Insulation

Board size
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

FF Material No.
White Lining 286416
Black Lining 286417
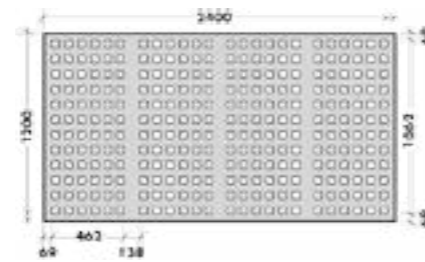
Patterned Apertura: Slot Type B4

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.35	0.60	0.65	0.50	0.40	Class D
65mm with insulation*		0.35	0.55	0.70	0.65	0.50	0.45	Class D
200mm		0.45	0.60	0.65	0.55	0.45	0.45	Class D
200mm with insulation*		0.50	0.65	0.65	0.60	0.50	0.50	Class C
400mm		0.55	0.65	0.55	0.55	0.45	0.45	Class D
400mm with insulation*		0.55	0.60	0.60	0.60	0.50	0.50	Class C

Area of perforation 13.7%

* 25mm Knauf Earthwool Acoustic Roll Insulation
** Slotline patterened boards have a square edge.

Board size
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

SE Material No.**
White Lining 286425
Black Lining 286426
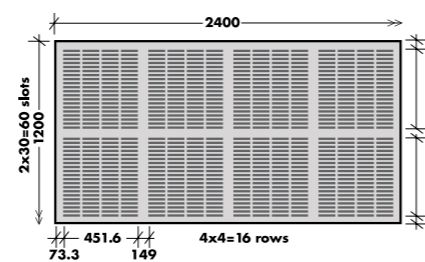
Perforated Apertura: Square

Patterned Apertura: Slot Type B5

Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.35	0.55	0.60	0.45	0.35	Class D
65mm with insulation*		0.35	0.55	0.65	0.60	0.45	0.40	Class D
200mm		0.45	0.55	0.60	0.50	0.40	0.40	Class D
200mm with insulation*		0.50	0.60	0.60	0.55	0.45	0.45	Class D
400mm		0.50	0.60	0.55	0.50	0.40	0.40	Class D
400mm with insulation*		0.50	0.55	0.55	0.55	0.45	0.40	Class D

Area of perforation 10.9%

* 25mm Knauf Earthwool Acoustic Roll Insulation
** Slotline patterened boards have a square edge.

Board size
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

SE Material No.**
White Lining 286427
Black Lining 286428
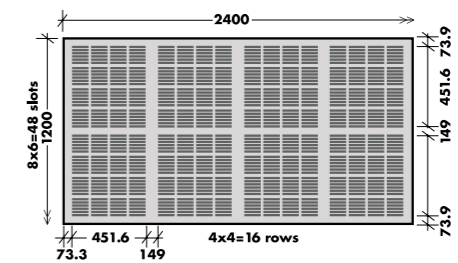
Patterned Apertura: Slot Type B6

| Void depth	Hz	125	250	500	1000	2000	4000	Perform. Class
65mm		0.15	0.35	0.60	0.70	0.55	0.45	Class D
65mm with insulation*		0.35	0.55	0.75	0.70	0.55	0.50	Class C
200mm		0.45	0.55	0.60	0.50	0.45	0.40	Class D
200mm with insulation*		0.55	0.70	0.70	0.65	0.55	0.55	Class C
400mm		0.55	0.65	0.60	0.55	0.50	0.45	Class D
400mm with insulation*		0.55	0.65	0.65	0.65	0.55	0.50	Class C

Area of perforation 15.7%

* 25mm Knauf Earthwool Acoustic Roll Insulation
** Slotline patterened boards have a square edge.

Board size
Width 1200mm
Length 2400mm
Weight 9.6 kg/m²

SE Material No.
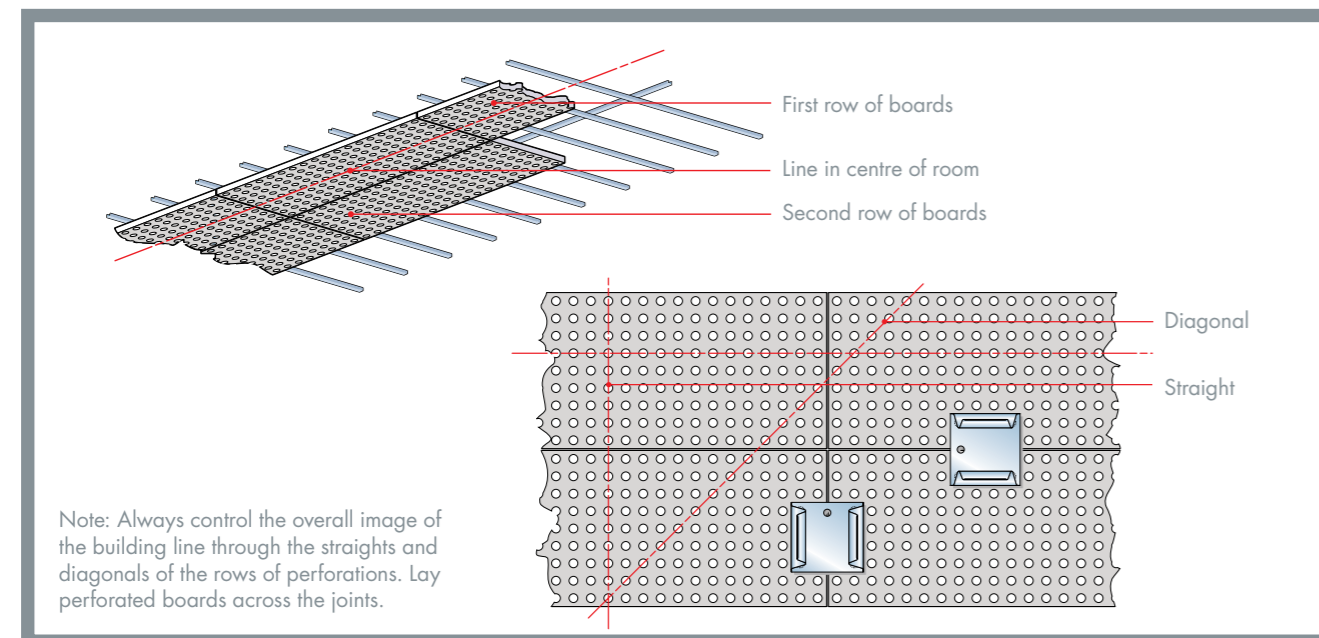White Lining 286429
Black Lining 286430
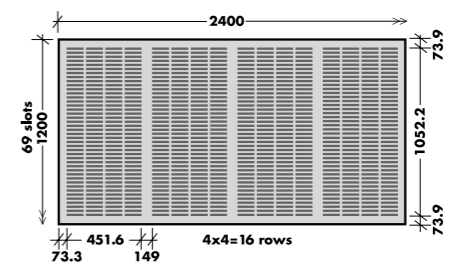
Apertura installation

When installing a Knauf Apertura system the instructions can be broken down into two main sections: the different support framework for wall and ceiling application and the boards themselves. The boards can also be split into two sections: Knauf Apertura boards for a seamless finish and Knauf Apertura Linear boards for fast installation which does not require jointing.

Ensure that the ceiling or wall liner system has been set out following the installation guidance detailed in the manual to ensure the correct channel spacings are used to suit the board perforation size.

The table below details the required channel centres for Knauf Apertura Wall Liner and for Knauf MF Ceiling Channels. For full MF Ceiling installation procedures please refer to page 128.

Perforation	Size (mm)		Channel centres (mm)		Weight (kg/m²)
	Board Length	Board Width	Walls	Ceilings	Board weight and ceiling system
Straight-Line Circular Perforation	6/18	1998	1188	396	333	≤ 15
	8/18	1998	1188	396	333	≤ 15
	10/23	2001	1196	400	333.5	≤ 15
	12/25	2000	1200	400	330.3	≤ 15
	15/30	1980	1200	400	330	≤ 15
Alternate Circular Perforation	8/12/50	2000	1200	400	333.3	≤ 15
	12/20/66	1980	1188	396	330	≤ 15
Random Circular Perforation	8/15/20	1875	1200	400	312.5	≤ 15
	12/20/35	1875	1200	400	312.5	≤ 15
Straight-Line Square Perforation	8/18	1998	1188	396	333	≤ 15
	12/25	2000	1200	400	333.3	≤ 15
Acoustic Square	B4, B6	2400	1200	400	300	≤ 15
Acoustic Slot	B4, B6	2400	1200	400	300	≤ 15

First row of boards

Line in centre of room

Second row of boards

Diagonal

Straight

Note: Always control the overall image of the building line through the straights and diagonals of the rows of perforations. Lay perforated boards across the joints.

Generate specifications at **www.knauf.co.uk**

Installing an Apertura Wall Liner

Knauf Apertura Wall Liner is specifically designed for use with Knauf Apertura boards to create the rigidity required for the seamless finish. The system provides a variable stand-off from the wall of between 30mm and 125mm.

1.   2.   3. & 4.   5.
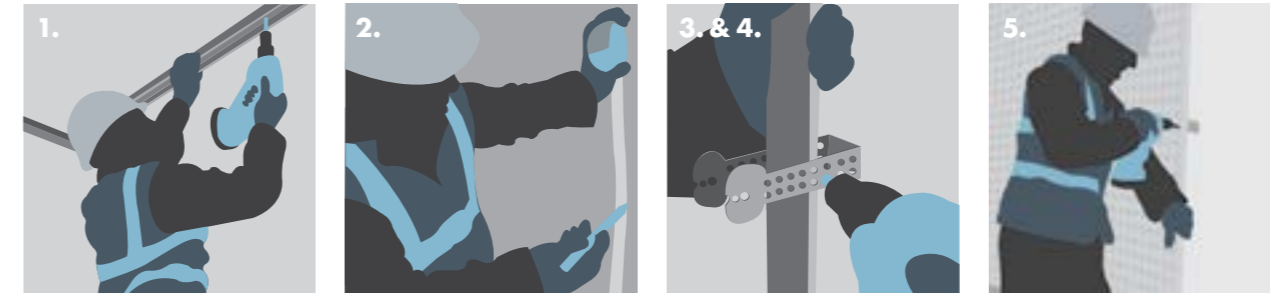
Fixing Apertura 'U' Channel to floor and soffit 1
Mark guidelines on the floor and soffit to establish the positions of the floor and head tracks relative to the stand-off distance required. Mark vertical guidelines on the background to establish the Knauf Apertura 'C' Channel positions (see table opposite). Knauf Apertura 'U' Channels should be used for the head and base along the guidelines using fixings appropriate for the background. Fix at maximum 600mm centres.

Positioning of Apertura 'U' Mounting Brackets 2
Mark the wall with the location of Knauf 'U' Mounting Brackets in line with the channel guidelines and at maximum 900mm vertical centres.

Positioning of Knauf Apertura 'C' Mounting Channels 3
Fix Knauf Apertura 'U' Mounting Brackets to the background, at the marked positions, using fixings appropriate for the background. Offer up the Knauf Apertura 'C' Channels to engage with the Knauf Apertura 'U' Mounting Brackets and in the floor and head tracks. Extend the length of Knauf Apertura 'C' Channels, where necessary, by using Knauf Apertura 'C' Channel Connectors. Adjust the channels for position and alignment.

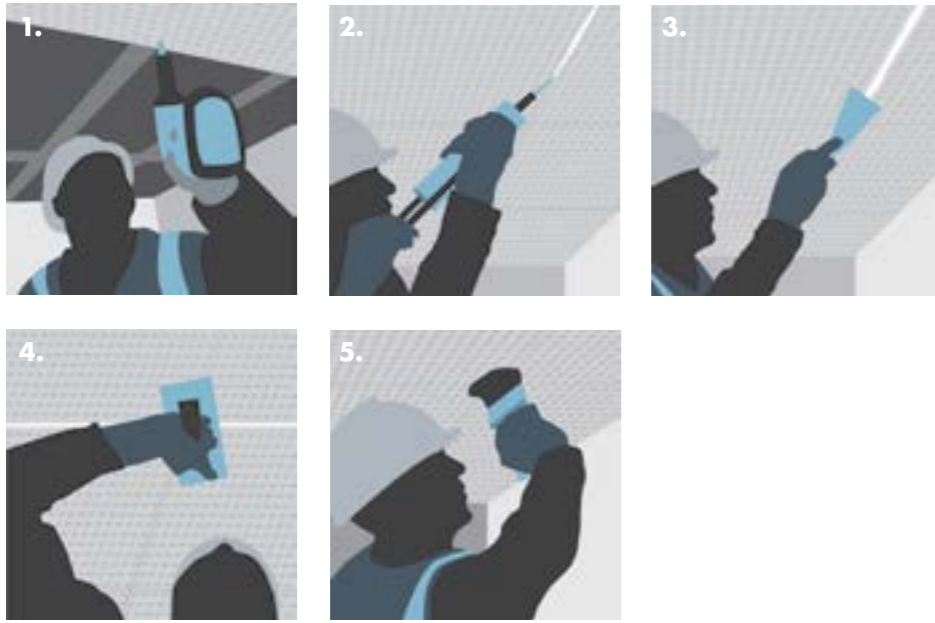## Fixing Knauf Apertura 'C' Channel 4
Secure the Knauf Apertura 'C' Channels to the Knauf Apertura 'U' Mounting Brackets using Knauf Wafer Head Jackpoint Screws. Depending on the stand-off distance, bend back the legs of the crimped 'U' Mounting Brackets so as not to obstruct the fixing of the Apertura board. Fix Knauf Angle Sections at external corners and reveals where appropriate.

Fixing Knauf Apertura Boards 5
Start at one end of the lining and work along. Fix Knauf Apertura boards using 25mm Knauf Drywall Screws at 300mm centres, reduced to 200mm at the corners placed carefully between the perforations. Knauf Apertura boards should be fixed parallel to the vertical Apertura 'C' Channels. Offer up the next board ensuring that the boards are correctly lined up and fix. Continue fixing boards in this manner until the wall is complete.

Generate specifications at **www.knauf.co.uk**

Installing Knauf Apertura, standard FF edge

Fixing Knauf Apertura board 1
Align the first board in the middle of the ceiling and fix using 25mm Knauf Drywall screws at max. 200mm centres. Offer up the next board ensuring that the board pattern is aligned correctly, using Knauf Apertura Installation aids as necessary. Continue fixing boards along the long edge and then with the short edge, until the ceiling is finished.

Applying Knauf Uniflott 2
Cut the nozzle of the applicator to suit the joint width. Using it, with a standard sealant gun, fully fill the joint. Knauf Uniflott is a chemical-setting compound and will set in approximately 90 minutes, so ensure that the applicator is rinsed out with water after use.

Carefully remove the excess 3
When the Knauf Uniflott has stiffened in the joints, remove any excess with a jointing knife, being careful not to damage the paper. Once the Knauf Uniflott has fully set, apply a second coat with a standard jointing knife in order to ensure a flush joint is achieved. This stage is critical to achieving a perfect seamless finish, so care should be taken to ensure the joints are completely filled, applying a second coat if necessary.

Sanding 4
Once the joints are completely filled and set, sand to a flat and even finish.

Decoration 5
Apply an undiluted coat of Knauf Wallboard Primer to the entire surface to equalise the suction levels between the joints and the boards. The surface can then be decorated using a foam rubber roller.

Frieze options

1. Flush-jointing to plasterboard
Prior to fixing the Knauf Apertura boards, fix a minimum 100mm wide strip of 12.5mm Square Edge Knauf Wallboard to the perimeter framework. Chamfer the edge of the Wallboard where it meets the board and leave a 3mm gap ready for jointing with Uniflott.
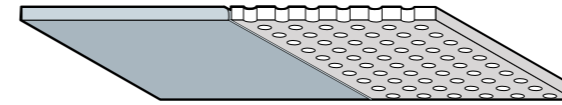
2. Flush-jointing to Apertura
Fix Knauf Apertura board as described above continuing to the perimeter. Mark out the desired position of the frieze with a chalk line, and fix low stick masking tape to the inside. Any holes remaining within the frieze area can then be filled with Knauf Uniflott to create a smooth surface.
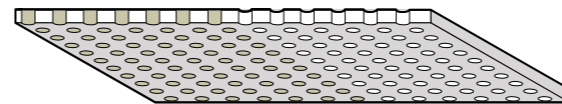
3. Raised feature using plasterboard
Fix Knauf Apertura boards as described above, continuing to the perimeter. To create the raised frieze, fix a strip of 12.5mm Square Edge Knauf Wallboard, at least 100mm wide, on top of Knauf Apertura, through to the perimeter framework.
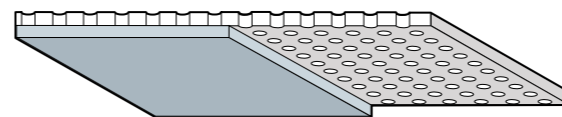
Installing Knauf Apertura Linear

Knauf Apertura Linear boards, when used in conjunction with Knauf Apertura Linear Caps, create an extremely quick and easy-to-install ceiling solution that doesn't require any jointing. Each board has two notched edges and two lapped edges which allow for an easy and precise alignment.

Installing the Knauf Linear Caps 1
Always place the notched edge adjacent to the lapped edge of the next board. Starting in the middle of the room, fix the first boards in place using Knauf Linear Caps. The cap should be pushed into the perforation in line with the support framework.

Fixing the boards 2
Once the cap is in place, fix the board to the framework using Knauf Linear screws (supplied with the caps). Continue to fix the first row of boards then use a reference line to check that the perforation alignment is correct. Fix the second row of boards again starting in the middle of the room to form a cross shape. Finally fill in the four corners to complete the room.

1.

2.
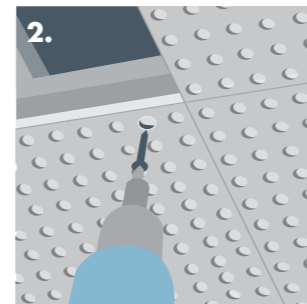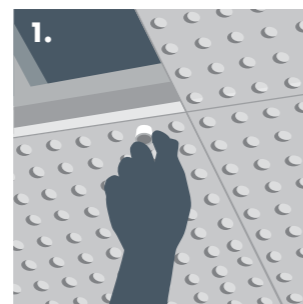
Knauf Apertura

Application details
These details represent some of the most common design situations relevant to the Knauf Apertura system. Knauf Drywall Technical Services can advise on any specific detail you are trying to achieve.

Knauf MF Ceiling System

Detail 1

- Structural soffit
- Knauf Angle Section
- Knauf MF Primary Support Channel
- Knauf MF Connecting Clip
- Knauf MF Ceiling Channel
- Knauf Apertura Board

Section through ceiling and wall abutment
Basic assembly of the Apertura Ceiling System

Knauf Apertura Wall Liner

Detail 2

- Knauf Apertura 'U' Channel
- Knauf Apertura Board
- Knauf Apertura 'U' Mounting Bracket secured to background and screw-fixed to channel
- Knauf Apertura 'C' Channel
- Knauf Apertura 'U' Channel

Head and floor

External corner
- Knauf Apertura Board
- Knauf Apertura 'C' Channel secured to Knauf Apertura 'U' Mounting Bracket
- Knauf Apertura 'U' Mounting Bracket with leg snipped and bent to retain channel

- 25 x 25 mm Knauf Angle Section
- Knauf Apertura 'C' Channel secured to Knauf Apertura 'U' Mounting Bracket
- Knauf Apertura 'U' Mounting Bracket with leg snipped and bent to retain channel

Internal corner

Generate specifications at **www.knauf.co.uk**

Finishes

The visual quality of your finished wall or ceiling is dependent on the quality of workmanship and quality of the materials used.

Knauf lead the way in modern, highly developed finishing materials that provide the best possible final surface while making life as easy as possible for the trades applying them. And our solutions are significantly faster on-site than traditional materials.
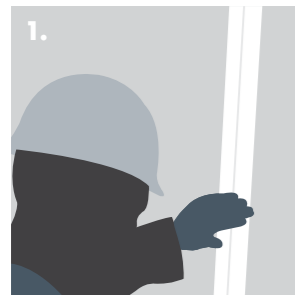
Finishes

Taping and Jointing

Knauf's superb range of jointing materials lead the market in ease of application, easy sanding, joint strength and quality of finish.

1.

Apply self-adhesive Knauf Fibre Tape to joint.
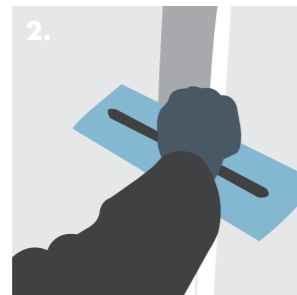
2.

Apply Knauf Joint Filler over the tape.

3.

Applying first coat of Knauf Joint Cement Easy Sand.

4.

Sand to a seamless finish.

5.

Applying Knauf Wallboard Primer.

Jointing partitions for speed of application
Knauf jointing materials and tapes are of the highest quality to ensure the best possible finish with the minimum risk of cracking.

For the fastest possible application time on vertical wall joints where no movement is expected, Knauf Fibre Tape allows the filling and bedding processes to be completed in a single application. Always use tapered edge Knauf Plasterboards when specifying a tape and jointed finish.

Application method
1 Apply the self-adhesive Knauf Fibre Tape to the length of the plasterboard joint.

2 Apply a liberal coat of Knauf Joint Filler over the tape, ensuring that the material is pushed through the tape to completely fill the joint, to a width of approximately 175mm. Smooth Knauf Joint Filler and allow to set; this will take approximately two hours.

3 Once the Knauf Joint Filler has fully set, apply a coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 250mm and leave to dry; usually overnight.

4 Once dry, apply the final coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand to a width of approximately 300mm and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

5 Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction and subsequent even paint texture, across the whole surface.
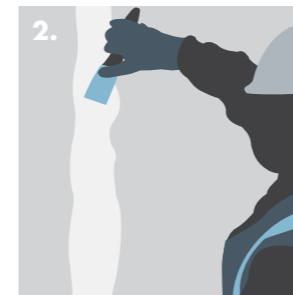
Further information:

Jointing products   247

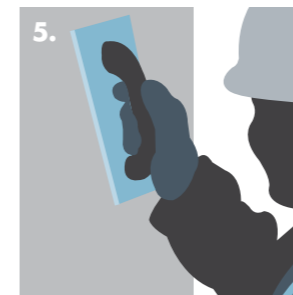**1.**
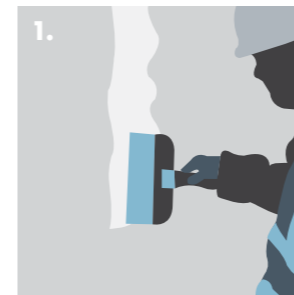
Applying Knauf Joint Cement Easy Sand.

2.

Bedding Knauf Joint Tape.

3.

Applying Knauf Joint Cement Easy Sand over the tape.

4.

Applying the first coat of Knauf Joint Cement Easy Sand.

5.

Sand to a seamless finish.

6.

Applying Knauf Wallboard Primer.

Jointing partitions for the strongest joint/jointing ceilings
Knauf Joint Tape is our recommended solution for both vertical and horizontal applications. The physical make-up of Knauf Joint Tape inherently provides a greater resistance to cracking than fibre tapes and the application method ensures the correct filling of the joints, which is essential for strength.

In public areas and on ceilings, which always experience a degree of movement, Knauf Joint Tape should always be specified. If significant movement is expected, then the installation of a Knauf Movement Control Joint should be considered.

Always use tapered edge Knauf Plasterboards when specifying a tape and jointed finish. Knauf's range of high-quality jointing materials will ensure the best possible finish can be achieved.

Application method
1 Fill the joint completely with either Knauf Joint Filler, Knauf Joint Cement Easy Sand, or Knauf Joint Cement Lite Easy Sand.

2,3 Bed the Knauf Joint Tape in the material and cover to a width of approximately 175mm. If using Knauf Joint Filler, allow it to set; this will take approximately two hours. If using a Knauf joint cement, allow it to dry; this will nominally take 24 hours.

4 Apply a coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 250mm and leave to dry; usually overnight.

5 Once dry, apply the final coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand to a width of approximately 300mm and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

6 Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

Taping and Jointing: internal corners
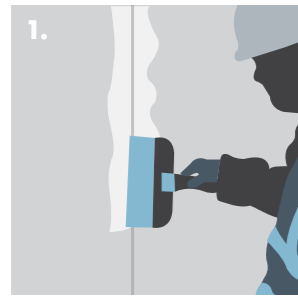
1. Ensure the joint is completely filled.

2. Bedding Knauf Joint Tape.

3. Cover to a width of 50mm each side of the joint.

4. Apply Knauf Joint Cement Easy Sand finish coat to 75mm each side.

5. Sand to a seamless finish.

6. Applying Knauf Wallboard Primer.

Jointing internal corners in partitions

Internal corners are more protected than external corners and generally take fewer knocks. They also normally require less feathering out to achieve an acceptably flat visual surface.

Knauf Joint Tape has an indented centre line that makes it easy to fold for use with internal corners. Knauf's range of joint cements are often preferred for internal corners for their easy workability.

Application method

1 Fill the joint completely with either Knauf Joint Filler, Knauf Joint Cement Easy Sand, or Knauf Joint Cement Lite Easy Sand.

2,3 Bend the Knauf Joint Tape along the centre line to suit the internal corner, then bed into the material and cover to a width of approximately 50mm each side of the joint. If using Knauf Joint Filler, allow it to set; this will take approximately two hours. If using a Knauf joint cement allow it to dry; this will nominally take 24 hours.

4 Apply a finish coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand over the entire layer to a width of approximately 75mm each side of the joint and leave to dry; usually overnight.
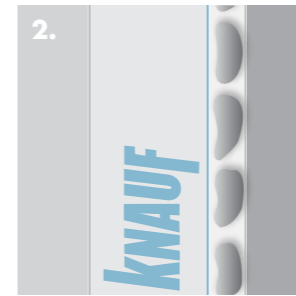
5 Once dry, sand to a seamless finish using 120/150 grade sand paper.

6 Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

Taping and Jointing: external corners

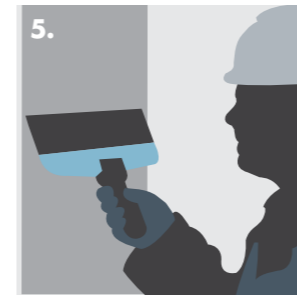**1.** Applying Knauf Joint Filler to either side of the corner.

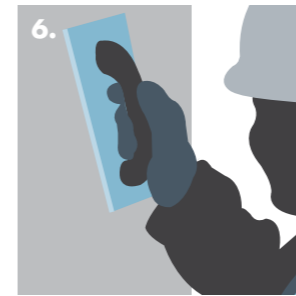**2.** Ensure all holes are completely filled.

3. Applying the first layer of Knauf Joint Filler.
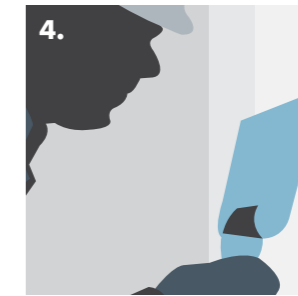
4. Apply second coat to 175mm each side of the corner.

5. Applying the finish coat of Knauf Joint Cement Easy Sand.

6. Sand to a seamless finish.

7. Applying Knauf Wallboard Primer.

Jointing external corners in partitions

External corners are more likely to take knocks than internal corners and must be carefully jointed to ensure longevity. Knauf Corner Flex Tape is designed to protect the corner of the partition when used with Knauf Joint Filler and has been proven to resist damage more effectively than traditional metal corner joint sections.

Application method

1,2 Apply a liberal coating of Knauf Joint Filler to both sides of the corner along the length of the joint. Push the Knauf Corner Flex Tape onto the corner, over the Knauf Joint Filler, ensuring that all the holes in the Knauf Corner Flex Tape are completely filled.

3 Apply a first layer of Knauf Joint Filler over the edges of the Knauf Corner Flex Tape and feather out to approximately 175mm each side of the corner. Allow to set; this will take approximately two hours.

4 Apply a second layer of Knauf Joint Filler over the first layer, again feathering out to approximately 175mm each side of the corner. Allow to set; this will take approximately two hours.

5,6 Once fully set, apply a finish coat of Knauf Joint Cement Easy Sand or Knauf Joint Cement Lite Easy Sand feathered out to approximately 250mm each side of the corner and leave to dry. Sand to a seamless finish using 120/150 grade sand paper.

7 Prior to final decoration, the entire plasterboard surface should be coated with Knauf Wallboard Primer to ensure an even suction, and subsequent even paint texture, across the whole surface.

Knauf finishing products

Use Knauf jointing materials for effortless sanding and a seamless finish.

Knauf Joint Cement Lite Easy Sand

Knauf Joint Cement Lite Easy Sand is a pre-mixed light joint cement for bedding tapes and finishing joints with superior characteristics for hand or machine application.

Knauf Joint Cement Easy Sand

Knauf Joint Cement Easy Sand is a lightweight air-drying compound for bedding tapes and finishing joints.

Knauf Joint Filler

Knauf Joint Filler is a fast-setting gypsum compound, ideal for bedding joints by hand application.

Knauf Wallboard Primer

Knauf Wallboard Primer is a surface treatment that equalises suction across joints prior to decoration. Applied with a brush or roller.

Spray Plastering

Knauf plasters are all suitable for traditional hand application, however many products in the range have been specifically developed for use with modern spray machinery. Spray application is the fastest and most efficient plastering method and with our powder and readymix spray plasters there's no compromise in the quality of finish.

MP75 plaster

Spraying Knauf MP75 1
Before starting to spray, make sure all beads are cut and bedded in using Knauf MP75. Ensure that all wall areas are clean and dry, and add pre-treatment if required. Starting in the corner spray Knauf MP75 in overlapping bands at the desired thickness (usually 11–13mm and up to 20mm).

Rule flat 2
Use an aluminium feather edge to rule the plaster flat. Once flat, leave Knauf MP75 for approximately 75 minutes to allow for the initial set to take place. The initial set time may vary depending on the level of suction from the background.

Second rule 3
After the initial set, use a small aluminium feather edge to apply a second rule and to remove any imperfections from the surface. Now leave the plaster for approximately 20 minutes more or use the 'Touch Test' – touch the plaster surface to check it does not stick to your fingers and resists finger print impressions.

Open the surface 4
Using a spatula, open the surface to allow air to enter the plaster to help with the drying process. This action is known as 'ripping' the surface and is easy to do – simply drag the spatula at 90° to the surface. Leave for another 20 minutes or use the 'Touch Test'.

Sponge float 5
Using water and a sponge float, bring the fats of the plaster to the surface. Leave for a further 10–20 minutes or use the 'Touch Test'. Using a quality steel trowel, push the plaster fats back into the plaster to give that all important hard and smooth finish.

Trowelling 6
Apply the first trowel. Leave for 10–20 minutes or use the 'Touch Test' before continuing with a second trowel exactly as per the first.

No water is required for backgrounds with a low suction; however, for backgrounds with a high suction flick water onto the surface with a paint brush.

Generate specifications at **www.knauf.co.uk**

Knauf MP75
For a superb finish use Knauf MP75. Knauf MP75 is a fast-drying projection plaster specially formulated for one-coat machine application on most interior walling surfaces.

When the surface has changed colour from off-white to dark grey, apply the final hard trowel, which gives Knauf MP75 its smooth and hard surface finish. It should take between 3 to 3 $\frac{1}{2}$ hours to achieve the perfect Knauf MP75 finish, dependent on the background and ambient temperature.

Knauf Readymix plasters

Preparation 1
Ensure all joints, corners etc., have been filled and Knauf Joint Tape bedded in correctly with Knauf Joint Filler. Secure angle beads to window reveals and external corners.

Spraying Knauf Readymix Plasters 2
Spray apply the plaster in overlapping bands.

Levelling Knauf Readymix Plasters 3
After applying the first coat, level flat with a spatula and use a corner trowel on internal angles. Allow to dry; this typically takes 12–24 hours. Repeat step 2 and 3. (Apply a second coat and then use a spatula to rule flat applying a little more pressure to flatten the surface.) Allow to dry; again this typically takes 12–24 hours.

Sanding 4
Sand the wall with a drywall sander ready for decoration.

Knauf Readymix plasters
Knauf Readymix plasters are a rapid, cost-effective alternative to traditional plaster for finishing walls and ceilings. They are purpose-designed for machine application on fast-track building projects.

Knauf Deco
Knauf Deco is normally used as a 1mm top coat over Knauf Plano or as a finish coat directly onto smooth backgrounds.

Knauf Deco Plus
Knauf Deco Plus can be used on the same backgrounds as Knauf Deco but offers additional water resistance, making it ideal for use in areas of high humidity.

Knauf Plano
Knauf Plano is a filler and levelling compound for use over thin joint block systems, uneven in situ concrete and to fill cracks and holes on refurbishment projects.

Knauf Airless
Knauf Airless can be used in the same areas as Knauf Deco and Knauf Deco Plus but applied with an airless high-pressure piston pump machine.

Generate specifications at **www.knauf.co.uk**

Knauf MPFinish

1.

2.

3.

4.

Knauf MPFinish

Knauf MPFinish makes the spray application of finish plasters possible. Knauf purpose-designed MPFinish in conjunction with leading spray machine manufacturers, who have brought out new machines to suit its characteristics. MPFinish mixes and sprays perfectly, without causing wear to the machine.

Preparation 1

Ensure all joints, corners etc., have been filled and Knauf Joint Tape bedded in correctly with Knauf MPFinish. Secure angle beads to window reveals and external corners.

Spraying Knauf MPFinish 2

Spray apply the plaster in overlapping bands. Before you spray Knauf MPFinish it is important to ensure that the correct consistency has been achieved. You are aiming for a fairly wet mix.

Levelling Knauf MPFinish 3

Trowel the material flat as it is applied and leave to 'pick up'. This is the initial setting stage and typically takes 45–50 minutes depending on the background. Once the plaster has picked up, trowel the surface. It is important that this trowel is a dry one – no water is required.

Trowelling 4

After about 30 minutes, depending on the background, apply the second trowel. Water can be applied to the surface at this stage if required. After 20–30 minutes the final towel can be applied to achieve an exceptionally smooth finish.

System Specification

System Specification

We know that small changes to the project specification can have a major effect on project efficiencies and the effectiveness of the finished building.

These pages highlight some of the simple changes that can achieve the greatest effects, from reducing wastage to reducing ongoing costs. They also introduce a free online tool to help you, and explain our health and safety policy and guidance.

Specification Considerations

The following pages highlight some key areas to consider when designing with Knauf systems.

Metal studs – speed, accuracy and economy
The specification of metal studs gives particular advantages over timber:

- Reduced waste
- Increased speed and ease of installation
- Higher accuracy, no movement or twisting due to shrinkage
- Reduced customer care issues

There is also a greatly reduced chance of use by other trades for non-associated tasks. In the case of internal partitions, the use of Knauf Acoustic 'C' Stud can obviate the need for an insulation quilt. Always ensure that Knauf metal studs are used within Knauf partition systems to ensure the validity of all performance ratings and the warranty.

Paper tape
Always specify the use of Knauf Joint Tape for jointing plasterboards in ceiling applications. The use of paper tape significantly reduces the chances of cracking due to movement of the background.

Reducing wastage
Wastage of plasterboard on sites can be reduced by ensuring that the correct board length is chosen to suit the storey heights. Often, over-length boards are specified which then have to be cut-down, increasing working time and waste.

For further information on Gypsum Waste Management, please see our guide on page 282.

Knauf Resilient Bar for ceilings
The specification of Knauf Resilient Bar on ceiling systems brings three advantages:

- Sound reduction is increased.
- Bars can be spaced to remove the need for noggings on 12.5mm board, regardless of joist centres.
- Instances of cracking/nail popping are much reduced, as the system will be more tolerant of background movement.

Recessed lights and other penetrations
When specifying recessed lighting and other penetrations through walls and ceilings, consider the effect on the system's performance with regards to fire and acoustic ratings. Always ensure the manufacturer of the penetration has taken these into account.

Ensuring effective adhesion for 'dot and dab'
When specifying a Direct Bonding plasterboard solution to fair faced in situ concrete, it is necessary to take into account the releasing agent used, as well as the low-key, low-suction surface. The concrete should be allowed to fully dry, and all traces of releasing agent removed with a mild detergent. Knauf Betokontakt should be used to provide a mechanical key, before the wall can be lined using a Knauf Direct Bonding system.

Achieving high finish levels
When deciding on which finish to apply to plasterboard, consideration should be given to the level of flatness that is required so that it suits the interior design and lighting conditions. For example, natural light at a shallow angle tends to highlight surface level differences, and features such as dado rails require a uniformly flat surface in order to be correctly mounted.

On a taped and jointed finish, the maximum increase of the crown of the joint allowed in BS 8212: 1995 is 3mm when measured using a 450mm straight edge. A smaller maximum increase can be specified, but will be more time-consuming to achieve. The use of Knauf tapered edge plasterboards is recommended when taping and jointing. If a uniformly flat surface is required then a Knauf skim plaster finish should be specified.

Moisture resistant board such as Knauf Moisture Panel and Knauf Performance Plus, require a pre-treatment with Knauf Betokontakt where a Knauf skim plaster finish is desired.

If specifying a taped and jointed plasterboard finish, Knauf Wallboard Primer should be applied prior to the final finish (paint or wallpaper). The use of Knauf Wallboard Primer equalises suction across the surface and reduces the chance of the joints being seen through the finish. It also reduces moisture absorption and the risk of discolouration.

When checking the standard of jointing prior to completion, the use of lighting similar to that expected when occupied will provide the most accurate check, and subsequently reduce the possibility of customer care issues relating to the finished surface.

Fixing sequence
The British Standard Code of Practice for plasterboard partitions and dry linings (BS 8000: Part 8: 1994) recommends the following sequence of work:

1 Fix ceiling linings first
2 then partitions
3 followed by wall linings.

Whenever it is practical to do so, apply wall linings in sequence, working away from doors and windows and towards internal angles. As far as possible, locate paper bound board edges at salient corners.

Please note that where a Knauf Parge Coat is specified to a masonry separating wall, then the Knauf Parge Coat should be applied first, before the ceiling lining, and should cover all exposed masonry.

Specification Considerations

For hospitals and non-residential buildings – service accommodation and partially boarded partitions: It is often necessary to accommodate a large number of services above ceiling level. On occasion, this means the plasterboard extends only to a height above suspended ceiling level leaving a gap for the services to run through. In these situations, no fire or acoustic performance can be guaranteed and it is necessary to consider the effect on the overall strength and, therefore, maximum design height of the partition.

The partition must also be capped off with plasterboard in order to prevent fibre migration, if insulation has been specified in the void.

Generally, it is recommended that no more than 25% of the total height is left unboarded without diagonal bracing being installed above a suspended ceiling. The bracing can be made from Knauf 'C' Stud or Knauf 'U' Channel and should be attached so that it forms a 45° brace between stud and soffit. These should be installed on every other stud and on alternate sides of the wall.

For schools – deflection heads to exposed soffits: Where suspended ceilings, either drywall or lay-in grid, are absent from the scheme design of a school, consider upgrading the deflection head detail to reduce the level of acoustic loss local to the head of the partition.

Music rooms/lecture theatres: Music rooms and lecture theatres require specific consideration from the project acoustician, and can differ in requirement depending on the type/nature of the project, and the client requirements. Both can require very specific detailing for sound reduction and sound absorption control. These requirements need to be considered early in the design stage. Knauf offer an extensive range of solutions for sound absorption, including Apertura ceiling and wall linings as well as high acoustic performance Knauf Isolator partitions. Please contact Knauf Technical Services for further details.

Partition Specifier

Save hours with our online tool that chooses the best partitions for your needs and then writes a full NBS format specification for you.

Use our Partition Specifier to:
- Meet performance criteria
- Produce instant NBS format specification documents for your project
- Create bespoke Technical Manuals for your project in seconds
- Generate a complete Procurement Schedule for your project
- Specify multiple partitions for your complete project
- Save and amend them at any time
- Use our Partition Specifier search to find matching standard or specialist partitions

Registration is free, simple and it only takes a minute. You can even try it out before you register to assure yourself that it will make design and specification a smoother, faster process for you.

www.knauf.co.uk

Generate specifications at **www.knauf.co.uk**

Generate specifications at **www.knauf.co.uk**

When to Upgrade

Upgrading to a higher specification Knauf product or system can bring major benefits to the client, and often reduces the project costs in both the long and short term.

To reduce ongoing fuel costs

While the energy markets remain volatile it is clear that the overall trend is for the cost of energy to increase into the future. Installing products that reduce ongoing running costs is simply common sense, providing those products allow for a reasonable pay-back time.

Knauf Brio dry floor screed has excellent thermal conductivity, making it the most efficient system to install over underfloor heating systems. Pipe temperatures can be reduced by as much as 6°C for the same room temperature, drastically reducing energy consumption.

Knauf Insulating Laminates combine the wall lining function of plasterboard with high-efficiency insulation material, reducing heating bills and providing an instant upgrade in refurbishments.

To reduce maintenance costs

In tough environments, such as schools and high traffic public areas, upgrading to one of our high robustness products will bring a major benefit in reduced maintenance costs; particularly important in long-term PFI/PPP contracts which run for 25 years or more.

Knauf Performance Plus and Knauf Impact Panel are ideal upgrades for high traffic public areas and other environments that are subject to knocks and bangs.

Knauf Aquapanel Interior cement board is a dedicated tile backer that will not degrade, no matter how wet it gets, protecting tiles and ensuring a damaged tile or grout only results in a quick localised repair.

To reduce overall project costs

Many of our innovative products are significantly faster to install and use fewer materials than traditional methods, more than offsetting the unit price of the product itself and resulting in a lower installed cost, as well as a higher performing system.

Knauf Brio dry screed boards and Knauf Readymix Plasters are much faster to install than traditional solutions and require a less skilled labour force. Less time is spent on-site, the project is completed faster and the overall package cost can be reduced.

Knauf High Performance Plasterboards are as easy to install as standard Knauf Wallboard and their increased performance can often reduce the number of layers of board required on each system. This reduces labour, time on-site and increases lettable area – all more than offsetting the small increase in product cost.

To reduce environmental impact

Reducing the environmental impact of construction is now a key concern for a range of clients, including local government, and more legislation is being introduced to further encourage best practice. Our plasterboard and metal systems are A-Rated in the 'Green Guide' and we also offer a range of products that are even better for the environment.

Knauf Safeboard X-ray plasterboard removes the need for environmentally impactful lead in X-ray departments.

Knauf High Performance Plasterboards can often reduce the number of layers required to reach a given system performance, reducing the amount of construction material required, and waste created, for a project.

Knauf Brio dry screed boards and Knauf Insulating Laminates reduce the ongoing energy usage of a building by improving its efficiency, reducing the carbon footprint of the building into the future.

To create a better environment for the occupants

The purpose of a building is to provide an environment for its occupants. In the majority of cases the designers will want to provide the best environment possible within budget. Simple upgrades at the design stage can make a huge difference to the look, feel and effectiveness of the interiors without a huge difference to costs.

Knauf MPFinish and Readymix Plasters are quickly spray applied to provide the best finish in the business. Exceptional coverage and speed comparable to dry installation keeps the installed cost low while giving the client a beautiful, flat durable surface.

Knauf Apertura aesthetic perforated and patterned plasterboards can bring a room to life, allowing complete design freedom while effectively controlling reverberation within the room. With Knauf Apertura a designer can simply turn a plain room design into something really special.

Knauf Soundshield Plus forms the basis of our highest performing sound reducing partitions and ceilings and is a very cost-effective upgrade to standard Wallboard. Greater privacy for occupants reduces stress for occupants.

Health and Safety

Knauf take great care to ensure that our customers understand how to use our products in a safe, efficient and environmentally acceptable manner.

Our Project Specification team make safety a paramount consideration when recommending materials for use. In addition to providing full product safety information, our teams of technical instructors are available to work with customers on site, to ensure a clear understanding of our product applications.

Health and Safety Policy
Knauf is committed to ensuring the health, safety and welfare of our employees and other persons who may be affected by our activities, and to continually improve our safe working environment. We will meet our statutory duties and comply with non-statutory requirements to which we subscribe. To this end we accept an obligation as far as is reasonably achievable to:

- Assess the risks associated with our activities and implement controls to reduce them such that they are as low as reasonably practicable.
- Provide a safe place of work, with safe plant, equipment and appliances, incorporating safe methods/systems of working.
- Provide employees with appropriate and sufficient information, instruction, training and supervision as is necessary to enable the safe performance of work activities.
- Provide protective clothing and equipment in instances in which hazards cannot be realistically eliminated completely.
- Provide adequate facilities and arrangements to enable employees and their representatives to raise issues of health and safety for consultation.
- Provide appropriate first aid and emergency facilities.
- Provide details of the organisation and arrangements for Health and Safety in our Integrated Management System.
- Ensure that this policy is subject to annual review to monitor the effectiveness of health and safety arrangements and if necessary, revised in the light of legislative or organisational changes.

- Investigate accidents or dangerous occurrences which may take place, to identify the probable causes and learn from them to avoid possible repetition.

Health, safety and environmental guidance
Knauf is committed to supplying safe products and systems to our customers and accepts its responsibilities under Section 6 of the Health and Safety at Work Act 1974. There is a wide range of legislation and codes of practice which regulate the way our products are used.

The Health and Safety Executive (HSE) (www.hse.gov.uk) and the Environment Agency (EA) (www.environment-agency.gov.uk) have excellent websites, which offer extensive guidance from manual handling to waste recycling.

Particular pieces of legislation to which customers should refer include:

- The Health and Safety at Work Act 1974
- The Construction (Design and Management) Regulations 2007
- The Management of Health and Safety at Work Regulations 1999
- Control of Substances Hazardous to Health Regulations 2002
- Work at Height Regulations 2005

Risk assessments
Customers must ensure that they properly assess the hazards and introduce suitable controls before carrying out any work. A step by step guide to risk assessment can be found on the HSE website.

When carrying out a risk assessment for any construction or related activity, customers should be mindful of:

- Manual handling – move boards and bags with care to avoid strain, using sufficient labour or mechanical aids where necessary.
- Personal protective equipment – overalls, gloves, head, eye and toe protection should be available and used where necessary.
- Power tools for cutting, grinding and sanding etc., – should only be used by trained and competent people.
- Safe access – boards are not load bearing and must not be used as platforms.
- Ventilation – should be adequate when mixing materials. Work materials to keep sanding and dust generation to a minimum.

Product safety information
Material Safety Data Sheets, which include all information required by the Control of Substances Hazardous to Health Regulations 2002 and the EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) chemicals regulations are available from our website: www.knauf.co.uk/themanual

Knauf plasterboards are not classified as hazardous under CHIP2 Regulations 1994.

Storage
Knauf Plasterboards are supplied on timber bearers. Packs should be lifted with a fork lift truck and stacked not more than one high on a flat surface to maintain stability. They should be stored in a clean, dry environment.

Workability
Knauf boards and metal components are not only easy to handle, they are extremely workable and can be easily cut and sawn with ordinary hand tools. The light weight of Knauf products, combined with their easy workability, ensures significant productivity gains.

Accuracy of guidance
Knauf has made every effort to ensure that information provided in this manual and other product literature is relevant at the time of printing. Users are advised to ensure that this guidance is up to date when planning to use our products and systems.

Our Products

The Knauf name is synonymous with product quality and innovation.

Our ranges of lining boards, metal sections, accessories and finishes are designed, tested and warranted to work together perfectly, helping you build a better space.

Products

Plasters

Our plasters have been specifically developed to take advantage of the latest spray application techniques. The highest quality gypsum is used to combine a superb finish with incredible coverage.

Knauf MPFinish

Knauf MPFinish is a spray-applied finishing plaster applied at a 2–3mm thickness. Suitable for use directly over plasterboard or where backing plasters have been applied. It hugely increases productivity when machine applied with a coverage of up to 18m² per 25kg bag. Setting in 2–2^1/$_2$ hours Knauf MPFinish provides a smooth white surface to receive a decorative finish. Knauf MPFinish is also suitable to be hand applied.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258215	60	1.50

Shelf life: 4 months. Compliance: BS EN 13279-1 Gypsum Building Plaster, designation B1/20/2 and Gypsum Plaster for Plasterwork with Enhanced Surface Hardness, designation B7/20/2. Estimating Guide: 16–18m² per 25kg bag.

Knauf MP75 Projection Plaster

Knauf MP75 is a one-coat plaster specifically designed for machine application. It can be applied up to 20mm thick in one application. Suitable for use directly onto blockwork, Knauf MP75 has a setting time of 3–4 hours. When machine applied, Knauf MP75 offers excellent productivity and is up to 3 times faster than traditional plastering methods. Knauf MP75 is also suitable to be hand applied.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	8904	48	1.20

Shelf life: 3 months. Compliance: BS EN 13279-1 Lightweight Gypsum Building Plaster, designation B4/50/2. Estimating Guide: 2.5m² per 25kg bag.

Knauf Universal Plaster

Knauf Universal Plaster is a one-coat plaster specifically designed for hand application, up to 20mm thick in one application. Knauf Universal Plaster provides a white surface to receive direct decoration. It can also be used as a tough, economical backing plaster.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258188	50	1.25

Shelf life: 4 months. Compliance: BS EN 13279-1 Lightweight Gypsum Building Plaster, designation B4/20/2. Estimating Guide: 2.25m² per 25kg.

Knauf Patchwall 45 Plaster

Knauf Patchwall 45 is designed as a hand-applied one-coat patching plaster applied up to 20mm thick in one application. Ideal for use when repairing damaged areas within an existing plastered finish. Knauf Patchwall 45 has a setting time of just 45 minutes, leaving a white surface ready to receive direct decoration.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
10	258199	100	1.00
10	258200	1	0.01

Shelf life: 4 months. Compliance: BS EN 13279-1 Lightweight Gypsum Building Plaster, designation B4/20/2. Estimating Guide: 0.8m² per 10kg bag.

Plasters

Ultra-tough and ultra-smooth – Knauf Readymix Plasters dry fast and are easy to apply over masonry, concrete, plasterboard and other surfaces. Made from the highest quality ingredients, with impeccable environmental credentials, these products are simply better by 'design'.

Readymix Plasters

Knauf Readymix Plasters are a highly efficient direct alternative to traditional plaster for finishing walls and ceilings. Being less prone to chips and cracks, they offer an excellent quality finish and are purpose designed for machine application. Supplied pre-mixed to the correct consistency for spray application, no direct water supply is required on site and wastage is less than 1%.

Knauf Plano

Used as a backing coat to fill or level holes or undulations on thin joint blockwork or insitu concrete, this product can be applied up to 3–4mm thick in one application. Knauf Plano is applied using a rotary screw worm pump machine.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258174	40	1.00

Shelf life: 9 months. Estimating Guide: Up to 9.5m² per 25kg bag at 1.5mm thickness.

Knauf Deco

Used as a finishing coat for Knauf Plano or as a direct finish coat onto smooth backgrounds such as taped and jointed plasterboard, precast panels, aircrete panels or refurbishment over previously decorated surfaces. This product is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Deco is applied using a rotary screw worm pump machine.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258175	40	1.00

Shelf life: 9 months. Estimating Guide: Up to 18m² per 25kg bag at 1mm thickness.

Knauf Deco Plus

Used on the same backgrounds as Knauf Deco this product offers additional water resistance and fungicidal protection as well as greater impact resistance, making it ideal for use in areas of high humidity or in high traffic areas. Knauf Deco Plus is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Deco Plus is applied using a rotary screw worm pump machine.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258177	40	1.00

Shelf life: 9 months. Estimating Guide: Up to 18m² per 25kg bag at 1mm thickness.

Knauf Airless

Used in the same areas as Knauf Deco and Deco Plus this product is ideal for use over Knauf Plasterboard with a two coat application onto taped and jointed drylining systems. Knauf Airless is applied 1–2mm thick with a drying time of 24–48 hours prior to decorating. Knauf Airless is applied using an airless high-pressure piston pump machine.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258176	40	1.00

Shelf life: 9 months. Estimating Guide: Up to 20m² per 25kg bag at 1mm thickness.

Readymix Plasters

Knauf Easy Plaster

Knauf Easy Plaster is a ready-mixed lightweight patching plaster specially designed for small to large repairs to cracks in walls and ceilings. It will not shrink or crack and is ideal for filling holes up to 40mm deep with a two-coat application. The plaster can be painted or wallpapered once dry.

Bucket Size	Material No.	Pallet Details	
Litres		Buckets	Tonnes (approx.)
2.5	282343	150	0.44
6	282344	60	0.42

Shelf life: 12 months. Estimating Guide: Up to 0.75m² per litre at 6mm thickness.

Plaster Accessories

Our Plaster Accessories have been developed to perfectly complement our high-quality plaster range.

Knauf High Suction Plaster Primer

Knauf High Suction Plaster Primer is a polymer-based product designed to pretreat backgrounds with high suction. The primer can be applied with a brush, roller or by spraying.

Bucket Size	Material No.	Pallet Details	
Kg		Buckets	Tonnes (approx.)
15	5587	24	0.36

Shelf life: 6 months. Estimating Guide: Up to 150m² per bucket (based on 1:1 dilution). Available in part pallet quantities.

Knauf Betokontakt

Knauf Betokontakt is a polymer-based product designed to provide a mechanical key to backgrounds which are smooth or have limited suction. Can be applied with a brush, roller or by spraying.

Bucket Size	Material No.	Pallet Details	
Kg		Buckets	Tonnes (approx.)
20	5454	24	0.48

Shelf life: 12 months. Estimating Guide: Up to 70m² per bucket. No need to dilute. Available in part pallet quantities.

Plasterboards

Knauf Performance Plus is the latest addition to our high-performance plasterboard range, combining unbeatable levels of impact, sound, fire and moisture resistance. Knauf Performance Plus is designed to meet the most challenging specification criteria, making it the only plasterboard you'll need for demanding commercial environments.

Standard Boards

Knauf offer a full range of plasterboards to meet all drylining requirements, including high-performance boards for greater fire, moisture, vapour, sound and impact results. Use in conjunction with Knauf jointing compounds, plasters, fixings, plasterboard adhesive and metal systems.

Knauf Wallboard

Knauf Wallboard is plasterboard with an ivory paper face, ideally suited to receive a plaster finish or for direct decoration.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
9.5	900	1800	243699	100	162.0	1.01
	1200	2400	243690	92	265.0	1.65
12.5	900	1800	243667	80	129.6	1.06
		2400	243669	80	172.8	1.41
	1200	2400	243643	72	207.4	1.69
		2700	243654	60	194.4	1.58
		3000	168040	60	216.0	1.76
15.0	900	2400	243684	60	129.6	1.33
	1200	2400	168044	60	172.8	1.77

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
9.5	1200	2400	243692	92	265.0	1.65
12.5	900	1800	243668	80	129.6	1.06
		2400	243670	80	172.8	1.41
	1200	2400	243647	72	207.4	1.69
		2500	243651	72	216.0	1.76
		2700	243657	60	194.4	1.58
		3000	63461	60	216.0	1.76
15.0	900	1800	243683	60	97.2	1.00
		2400	243685	60	129.6	1.33
	1200	2400	168043	60	172.8	1.77
		2500	58259	48	144.0	1.47
		2700	243677	48	155.5	1.60
		3000	58260	48	172.8	1.77

Compliance: EN 520, Type A.
Board weight: 9.5mm = 6.2kg/m²   12.5mm = 8.3kg/m²   15mm = 10.2kg/m²

Knauf Baseboard

Knauf Baseboard is a handy sized plasterboard suitable for use as a base for plastering.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
9.5	900	1220	243477	96	105.4	0.64

Compliance: EN 520, Type P.
Board weight: 9.5mm = 6.2kg/m²

High Performance Boards

Knauf High Performance Boards offer the convenience of plasterboard with significantly higher performance in key areas, from moisture performance in kitchens and bathrooms to fire and impact ratings in commercial projects. Knauf High Performance Boards are the solution for elements of fire, moisture, vapour, sound and impact performance.

Knauf Vapour Panel

Knauf Vapour Panel has a metallised polyester foil laminated on the grey paper face, creating an effective vapour barrier.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	900	1800	243714	80	129.6	1.06
	1200	2400	243706	72	207.4	1.69

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	243708	72	207.4	1.69
		2700	243712	60	194.4	1.61
		3000	243713	60	216.0	1.76
15.0		2400	243716	60	172.8	1.77

Compliance: EN 14190 and the wallboard only complies fully to EN 520 and is categorised as Type A.
Vapour Check Performance: 12.5mm Vapourshield 78.5 MNs/g. Terms Category: 4   Material Pricing Group: 07
Board weight: 12.5mm = 8.3kg/m²   15mm = 10.2kg/m²

Knauf Moisture Panel

Knauf Moisture Panel is a high-performance plasterboard for use in internal areas of high humidity and temporary external exposure.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	292680	60	172.8	1.64

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	222210	60	172.8	1.64
		2700	68551	60	194.4	1.85
		3000	243622	54	194.4	1.85
15.0	1200	2400	168091	60	172.8	1.76
		3000	400134	48	172.8	1.76

Compliance: EN 520, Types A and H2. Terms Category: 5   Material Pricing Group: 12
Board weight: 12.5mm = 9.5kg/m²   15mm = 10.2kg/m²

High Performance Boards

Knauf Sound Panel

Knauf Sound Panel offers enhanced levels of sound performance and a greater density, making it ideal for residential applications or where a minimum of 10kg/m² is required.

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	404632	32	92.16	0.94

Compliance: EN 520, Types A and D. Material Pricing Group: 09
Board weight: 12.5mm = 10kg/m²

Knauf Fire Panel

Knauf Fire Panel offers superior fire protection.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	900	1800	243496	80	129.6	1.30
	1200	2400	243481	60	172.8	1.73

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	900	1800	243498	80	129.6	1.30
	1200	2400	244412	60	172.8	1.73
		2700	243489	60	194.4	1.94
		3000	243493	48	172.8	1.73
15.0	1200	2400	243501	48	138.2	1.66
		2700	243507	48	155.5	1.87
		3000	243513	42	151.2	1.82

Compliance: EN 520, Types A and F. Terms Category: 7   Material Pricing Group: 15
Board weight: 12.5mm = 10kg/m²   15mm = 12kg/m²

Knauf Impact Panel

Knauf Impact Panel is an impact-resistant plasterboard offering toughness, durability and excellent load carrying capacity.

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
15.0	1200	3000	243587	42	151.2	1.95

Compliance: EN 520, Types A, D, F, I and R. Terms Category: 8   Material Pricing Group: 10
Board weight: 15mm = 12.8kg/m²

High Performance Boards

Knauf Soundshield Plus

Knauf Soundshield Plus is the ideal plasterboard where sound reduction is of particular importance. Its high mass and tuned core give enhanced acoustic performance and severe duty impact rating when used on Knauf systems.

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	292622	56	161.2	1.86
		2700	292620	48	155.5	1.79
		3000	292627	42	151.2	1.74
15.0	900	2400	292644	60	129.6	1.66
	1200	2400	292646	48	138.2	1.77
		2700	292677	42	136.1	1.74
		3000	292678	36	129.6	1.66

Compliance: EN 520, Types A and D.
Board weight: 12.5mm = 11.5kg/m²   15mm = 12.8kg/m²

Knauf Performance Plus

Knauf Performance Plus, our highest specification plasterboard, has a high density core with added performance-enhancing ingredients. The result is a board with extremely high levels of sound, moisture, fire and impact resistance, ideally suited to schools, hospitals and other large commercial projects.

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	1200	2400	400177	60	172.8	1.98
		3000	400185	48	172.8	1.98
15.0	1200	2400	400189	48	138.2	1.77
		3000	400195	36	129.6	1.66

Compliance: EN 520, Type A, D, F, H1, I and R.
Board weight: 12.5mm = 11.5kg/m²   15mm = 12.8kg/m²

High Performance Boards

Knauf Plank

Knauf Plank is a 19mm thick plasterboard for use as a key component in many partition and floor systems, where it acts as an acoustic mass layer.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
19.0	600	2400	243627	80	115.2	1.61

Tapered Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
19.0	600	2400	81063	80	115.2	1.61

Compliance: EN 520, Type A.
Board weight: 19mm = 14kg/m²

Knauf Core Board

Knauf Core Board is designed to be used in conjunction with the Knauf Shaftwall systems. It has both fire and moisture resistant qualities.

Square Edge

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
19.0	600	3000	81062	32	57.6	0.81

Compliance: EN 520, Types A, D, F, H1, I and R.
Board weight: 19mm = 16.3kg/m²

Knauf Safeboard

Knauf Safeboard is an X-ray resistant plasterboard with barium sulphate in its core. It effectively and significantly reduces the amount of lead needed within X-ray shielding partitions, in many cases removing the need for lead altogether.

Round Edge

Dimensions (mm)			Material No.
Thickness	Width	Length	
12.5	625	2400	154735

For details on specifying and ordering Knauf Safeboard, please contact Knauf Customer Services.

Insulating Laminates

Knauf Insulating Laminates provide an efficient way to achieve instant energy savings, while maximising room space. All Knauf Insulating Laminates offer simple solutions to meet the requirements of the Building Regulations for walls as well as room-in-roof situations for new build and refurbishment projects. Knauf Insulating Laminates reduce CO_2 emissions as well as reduce energy expenditure offering short payback periods. Knauf Insulating Laminates are supplied with a tapered edge for direct decoration or plaster finish and can be installed using either Knauf Plasterboard Adhesive or mechanical fixings.

Knauf Thermal Laminate

Knauf Thermal Laminate offers good levels of thermal insulation by combining 9.5mm Knauf Wallboard with high-quality polystyrene which is both CFC and HCFC-free. This product is ideal for use in both refurbishment and new build.

Tapered Edge   Thermal performance

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
22	1200	2400	243596	46	132.5	0.87
30	1200	2400	243597	32	92.2	0.64
40	1200	2400	243598	25	72.0	0.50

Knauf Thermal Laminate Vapour Check

Knauf Thermal Laminate Vapour Check offers good levels of thermal insulation by combining 9.5mm Knauf Vapourshield plasterboard with high-quality polystyrene which is both CFC and HCFC-free. This product is ideal for use in both refurbishment and new build. An effective vapour check layer is incorporated within the board.

Tapered Edge   Thermal performance

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
22	1200	2400	243599	46	132.5	0.87
30	1200	2400	243601	32	92.2	0.64
40	1200	2400	243602	25	72.0	0.50

Insulating Laminates

Knauf XPS Laminate Plus

CFC and HCFC-free extruded polystyrene bonded to 9.5mm Knauf Wallboard offers an enhanced thermal performance at a reduced thickness with the additional advantage of providing a good vapour resistance. Ideal for use in refurbishment, new build and warm roof situations where an enhanced level of thermal insulation is required.

Tapered Edge   Thermal performance

| Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
27	1200	2400	268262	36	103.7	0.71
35	1200	2400	268264	28	80.6	0.58
40	1200	2400	268265	25	72.0	0.53
45	1200	2400	268266	22	63.4	0.47
55	1200	2400	268267	16	46.1	0.36

Knauf PIR Laminate

PIR insulation is CFC and HCFC-free; when bonded to 9.5mm Knauf Wallboard it offers the highest thermal performance, reducing the thickness required. This cost-effective solution is ideal for use in refurbishment, new build and room-in-roof situations where an enhanced level of thermal insulation is required.

Tapered Edge   Thermal performance

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
35	1200	2400	243592	26	74.9	0.52
50	1200	2400	243593	22	63.4	0.47
65	1200	2400	243594	17	49.0	0.38
75	1200	2400	243595	14	40.3	0.33
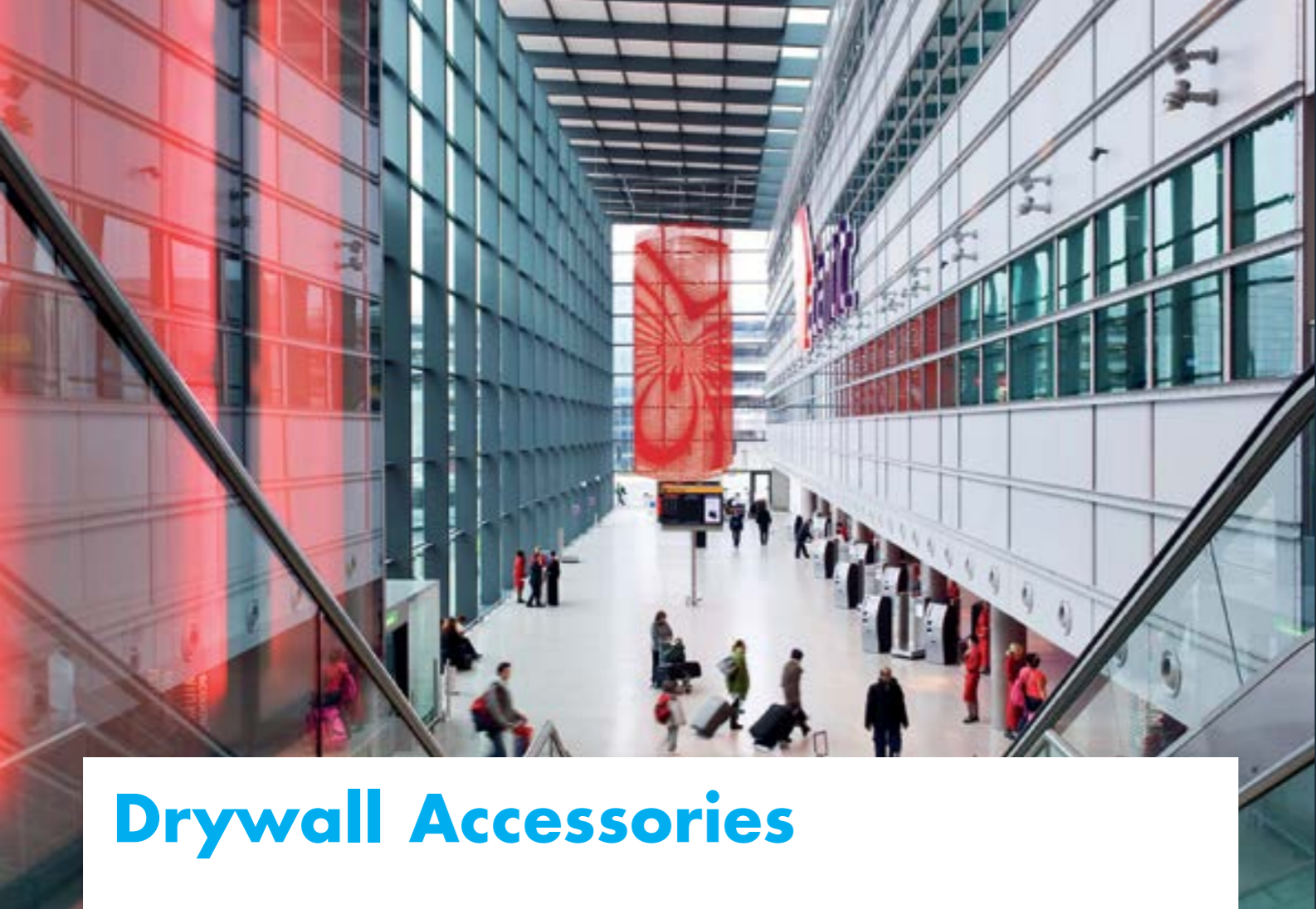
Drywall Accessories

Well-made and expertly crafted, our fully warranted accessories guarantee consistent quality across the Knauf range. Comprising fillers, cements, tapes, beads, fixings and more, they're all designed with compatibility, endurance and optimum performance in mind.

Jointing Products

Our range of Jointing Products has been developed to give you the best possible results when bedding tapes and beads, and finishing joints. Whether for hand or machine application, Knauf Jointing Products give you the smoothest finish with the minimum effort.

Knauf Joint Filler
A fast-setting gypsum compound for bedding joints by hand application.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
20	258179	42	0.84

Shelf life: 4 months. Compliance: EN 13963, Type 1B. Estimating Guide: To bed and fill to shoulders: 110m² per bag. Available in part pallet quantities.

Knauf Multifill
A fast setting multi-purpose gypsum-based compound for bedding tapes and beads, and for finishing. For hand application.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
10	258186	90	0.90

Shelf life: 4 months. Compliance: EN 13963, Type 3B. Estimating Guide: To bed, fill and finish: 45m² per bag. Available in part pallet quantities.

Knauf Joint Cement Easy Sand
A lightweight air-drying compound for bedding tapes and finishing joints by hand or machine application. Knauf Joint Cement Easy Sand produces an exceptional finish with minimal sanding effort.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
20	258185	42	0.84

Shelf life: 4 months. Compliance: EN 13963, Type 3A. Estimating Guide: For two coats of finish: 80m² per bag. Available in part pallet quantities.

Knauf Joint Cement Lite Easy Sand
A pre-mixed lightweight air-drying compound for bedding tapes and finishing joints with superior sanding characteristics. For hand or machine application.

Tub Size	Material No.	Pallet Details	
Litres		Tubs	Tonnes (approx.)
10	268274	55	0.50
17	258184	33	0.62

Shelf life: 9 months. Compliance: EN 13963, Type 2A. Estimating Guide: 3m² per litre approx. Available in part pallet quantities.

Knauf Safeboard™ Joint Filler
A joint filler for use with Knauf Safeboard X-ray shielding plasterboard.

Tub Size	Material No.
Kg	
5	133092

For details on ordering Knauf Safeboard Joint Filler, please contact Knauf Customer Services.

Generate specifications at **www.knauf.co.uk**

Jointing Products/Accessories

Knauf Joint Tape

White tape for reinforcing joints by hand or machine application. Knauf Joint Tape is recommended on ceilings and to create the strongest joints. A centreline facilitates the jointing of internal corners.

Roll Size		Material No.	Carton Details	
Length (m)	Width (mm)		Rolls	Kg (approx.)
150m	51mm	258337	10	12

Knauf Fibre Tape

Multi-purpose self-adhesive tape for reinforcing joints and patch repairs to plasterboard.

Roll Size		Material No.	Carton Details	
Length (m)	Width (mm)		Rolls	Kg (approx.)
153m	50mm	258338	12	7

Knauf Corner Flex Tape

Fibre composite tape for providing protection to external corners of drylined partitions.

Roll Size		Material No.	Carton Details	
Length (m)	Width (mm)		Rolls	Kg (approx.)
30m	62mm	258336	12	16

Knauf Angle Bead

Galvanised steel corner protection for external corners of drywall partitions.

Dimensions (mm)		Material No.	Pack Details	
Size	Length		Lengths/Pack	Kg (approx.)
25 x 25	2400	258333	50	20
25 x 25	3000	258334	50	24

Knauf Edge Bead

Galvanised steel edge trim for drywall applications used to protect exposed plasterboard edges while forming a defined edge to the plasterboard.

Dimensions (mm)		Material No.	Pack Details	
Size	Length		Lengths/Pack	Kg (approx.)
12.5	3000	258304	50	25
15	3000	258305	50	27

Terms Category: 16   Material Pricing Group: 19

Knauf Movement Control Joint

Aluminium section used to bridge gaps left for expansion and contraction in drywall partitions. Please note it is not suitable as a central joint for internal plastering.

Dimensions (mm)		Material No.	Pack Details	
Size	Length		Lengths/Pack	Kg (approx.)
60	3048	258335	10	4

Accessories

Knauf Resilient Isolation Strip

A purpose-made self-adhesive strip which isolates the floor deck from the top of the timber joist in acoustic floor systems allowing improved acoustic performance.

Dimensions (mm)			Material No.	Pack Details	
Thickness	Size	Length		Rolls/Pack	Kg (approx.)
12	50	5000	258303	9	6

Knauf Intumescent and Acoustic Mastic Foil

Knauf Intumescent and Acoustic Mastic is a rapid curing, water-based acrylic expanding fire resistant mastic. It can be used for sealing individual or grouped services or for linear joint sealing.

Foil Size	Material No.	Pack Details
ml		Foils per Pack
600	258281	12

Note: Check compatibility with pipe manufacturer prior to use. Shelf life: 18 months. Compliance: Tested to BS EN 1366-3: 2004 in accordance with BS EN 1363-1 and has been assessed fully in accordance with BS 476: Part 20.

Knauf Foil Applicator

Gun applicator for applying Knauf Sealant, Knauf Intumescent and Acoustic Mastic foils.

Foil Size	Material No.
ml	
600	258341

Knauf Intumescent and Acoustic Mastic

Knauf Intumescent and Acoustic Mastic is a rapid curing, water-based acrylic expanding fire resistant mastic. It can be used for sealing individual or grouped services or for linear joint sealing.

Cartridge Size	Material No.	Pack Details	
ml		Cartridges per Pack	Kg (approx.)
310	258280	12	6.8

Note: Check compatibility with pipe manufacturer prior to use. Shelf life: 18 months. Compliance: Tested to BS EN 1366-3: 2004 in accordance with BS EN 1363-1 and has been assessed fully in accordance with BS 476: Part 20.

Knauf Sealant

An all-purpose water-based acrylic gun applied acoustic sealant for use with Knauf systems.

Cartridge Size	Material No.	Pack Details
ml		Cartridges per Pack
900	258301	6

Shelf life: 12 months. Estimating Guide: For a 10mm bead, 30–40 linear metres per cartridge.

Knauf Sealant Gun

Gun applicator with up to 1 litre capacity for Knauf Sealant.

Cartridge Size	Material No.
Litres	
0.90–1.00	258340

Accessories

Knauf Putty Pads

Sheets of intumescent, mouldable putty designed for use inside and outside plastic electrical sockets.
Will maintain a fire rating of up to 2 hours and an acoustic rating of up to 60dB(Rw).

Dimensions (mm)		Material No.	Pack Details	
Size	Thickness		Pads per Box	Kg (approx.)
170 x 170	3.5	268269	20	2.2
230 x 170	3.5	268271	20	4.8

Knauf Plasterboard Adhesive (Bonding Compound)

A multi-purpose gypsum-based adhesive for use with Knauf Metal Furring Channel and for direct bonding of Knauf Plasterboards and Insulating Laminates. Should not be used for moisture resistant or vapour check boards. For extremes in background suction, refer to Knauf High Suction Plaster Primer and Knauf Betokontakt.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258166	60	1.50

Shelf life: 4 months. Compliance: EN 14496. Estimating Guide: 4.6m² per bag (dot and dab).

Knauf Gypsum Parge Coat

A gypsum-based compound specifically designed to seal masonry walls prior to direct bonding with Knauf Plasterboards offering improved acoustic and airtightness performance. To be applied in a continuous layer to the entire wall surface, ensuring all gaps are filled, especially at junctions and corners. Sets in 1.5 to 2 hours. Approved for use with Robust Details E-WM-3 and E-WM-5.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258189	60	1.50

Shelf life: 4 months. Compliance: EN 13279-1/2. Acoustic plaster C3. Estimating Guide: Approximately 4.25m² per bag, at a minimum thickness of 6mm.

Knauf Wallboard Primer

Knauf Wallboard Primer is a surface treatment that equalizes suction across joints prior to decoration.
Applied with a brush or roller.

Tub Size	Material No.	Pallet Details	
Litres		Tubs	Tonnes (approx.)
12	258279	36	0.54

Shelf life: 6 months. Estimating Guide: Approximately 133m² per tub (one coat). Available in part pallet quantities.

Accessories

Knauf Cove

Decorative plaster moulding with a paper face for direct application of paint finishes.

Dimensions (mm)		Material No.	Pallet Details		
Width	Length		Packs per Pallet	Lengths per Pack	Tonnes (approx.)
127	3000	258395	40	5	0.56
	3600	258399	50	5	0.84
90	3000	258397	39	7	1.06

Orders must be placed for whole packs.

Knauf Cove Adhesive

Gypsum-based adhesive to affix Knauf Cove. One bag is sufficient to fix 18–24 linear metres of cove.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
5	258171	180	0.90

Available as part pallet. Shelf life: 4 months. Compliance: EN 14496.

Knauf Cove Mitres

Reusable plastic tool to achieve accurate mitred corners.

Width	Material No.	Pallet Details
mm		Items per Pack
90	258283	20
127	258284	20

Fixings

Knauf Screws – Self Tapping

Self-drilling black phosphate screws with countersunk Ph2 heads. For fixing plasterboards to metal and timber framing. Ideal for use with light gauge metal up to 0.7mm thick. Each box includes a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
25	3.5	258309	1000	1.5
32	3.5	258310	1000	1.8
38	3.5	258311	1000	2.1
42	3.5	258312	1000	2.5
50	3.9	258313	500	1.8
60	4.2	258314	500	2.0
75	4.2	258315	500	3.0

Estimating Guide: 10 screws per layer per m² of partition (based on 600mm centres).

Knauf Collated Screws – Self Tapping

Strips of 50 collated black phosphate, self-tapping screws with countersunk Ph2 heads. For fixing plasterboards to metal and timber framing. Ideal for use with light gauge metal up to 0.7mm thick. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
25	3.5	258306	1000	1.9
35	3.5	258307	1000	2.0
45	3.5	258308	1000	2.7

Estimating Guide: 10 screws per layer per m² of partition (based on 600mm centres).

Knauf Screws – Jackpoint Self Drilling

Self-drilling black phosphate screws with countersunk Ph2 head. For fixing plasterboard to metal frame 0.7mm to 1.2mm thick. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
25	3.5	258318	1000	1.6
35	3.5	258319	1000	2.1
42	3.5	258320	1000	2.4
55	3.5	258321	1000	3.7

Estimating Guide:10 screws per layer per m² of partition (based on 600mm centres).

Knauf Wood Screws

Self-tapping black phosphate coarse threaded wood screws with countersunk Ph2 head. For fixing plasterboard to timber frame. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
38	3.5	258316	1000	2.1
42	3.5	258317	1000	2.5

Estimating Guide: 10 screws per layer per m² of partition (based on 600mm centres).

Fixings

Knauf Wafer Head Screws – Self Tapping

Self-tapping black phosphate low-profile screws with Ph2 head. for metal-to-metal fixing. Ideal for use with light gauge metal up to 0.7mm thick. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
14	4.2	258323	1000	1.4

Knauf Wafer Head Screws – Jackpoint Self Drilling

Zinc-coated self-drilling low-profile screws with Ph2 head. For metal-to-metal fixing. Ideal for use with heavy gauge metal above 0.7mm thick. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
14	4.2	258322	1000	1.4

Knauf Nailable Plugs

Knauf Nailable plugs are second fix hammer-in screws suitable for fixing Knauf Insulating Laminates and Knauf 'U' Channel, timber studs, and bearers to masonry. Each box comes with a Ph2 bit.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
35	6	258326	100	0.50
80	8	258328	50	0.70
100	8	258327	50	0.90

Knauf Performance Plus Screws

Knauf Performance Plus Screws are designed for single and double layer Knauf Performance Plus partition systems. The Knauf Performance Plus Screws provide a solid fix into plasterboards with a dense consistency.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Pack	Kg (approx.)
25	4.2	404662	1000	1.9
35	4.2	404663	1000	2.3
45	4.2	404664	1000	2.7

Generate specifications at **www.knauf.co.uk**

Generate specifications at **www.knauf.co.uk**

Metal Sections

Combining maximum performance with minimum fuss, Knauf Performer partitions are easy to install in any modern interior. Like all Knauf partitions they're manufactured using high-quality components and are available in a wide range of sizes.

'C' Studs

Knauf 'C' Studs are high-quality, high-performance, tested steel sections. Knauf 'C' Studs are available in a number of different widths, lengths and gauges to suit our range of system solutions.

Knauf 'C' Studs

Galvanised lightweight steel section for use in non-load bearing Knauf partition systems.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.55	50	2400	35	243861	10	14
		2500	35	243863	10	15
		2700	35	243865	10	15
		3000	35	243869	10	17
		3600	35	243870	10	21
	60	3000	35	243876	10	18
		3600	35	243877	10	22
	70	2400	35	243880	10	16
		2700	35	243887	10	18
		3000	35	243889	10	20
		3600	35	243898	10	24
		4200	35	243909	10	28
	92	3600	35	243923	10	26
		4200	35	243930	10	31
	146	2700	35	243847	10	27
		3000	35	243848	10	30
		3600	35	243849	10	35
		4200	35	243851	10	41
0.70	70	3600	35	243917	10	30
		4200	35	243919	10	35
	92	3600	35	243933	10	34
		4200	35	243935	10	40
	146	4200	35	243858	10	53

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

Knauf Acoustic 'C' Studs

Galvanised lightweight steel section for use in non-load bearing Knauf partition systems, specifically designed to improve the acoustic performance of the resulting partition.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.60	50	2400	50	243820	10	15
		2700	50	243821	10	16
		3000	50	243823	10	17
	70	2400	50	243824	10	18
		3000	50	243826	10	22
		3600	50	243829	10	26
		4200	50	243839	10	30

Estimating Guide: 1.67 metres per m² (based on 600mm centres). Compliance: EN 14195.

'U' Channels

High-quality Knauf 'U' Channels are available in a number of widths to suit our range of system solutions.

Knauf 'U' Channel

Galvanised steel section for use as the standard head and floor track for Knauf partitions and wall linings.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.55	52	3000	25	243994	10	13
	62	3000	25	243995	10	14
	72	3000	25	243996	10	16
	94	3000	25	243997	10	18
	148	3000	25	243993	10	25

Estimating Guide: 2 linear metres per metre run of partition, head and floor track. Compliance: EN 14195.

Knauf Deep Flange 'U' Channel – 50mm Deep Flange

Galvanised steel section for use as an optional head track where increased deflection is expected for use in Knauf partition and Knauf Shaftwall systems.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.60	52	3000	50	243999	10	25
	72	3000	50	255951	10	27

Estimating Guide: 1 linear metre per metre run of partition, head track only. Compliance: EN 14195.

Knauf Deep Flange 'U' Channel – 70mm Deep Flange

Galvanised steel section for use as an optional head track where increased deflection is expected for use in Knauf partition and Knauf Shaftwall systems.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.70	52	3000	70	244000	10	32
	62	3000	70	255950	10	33
	72	3000	70	255953	10	35
	94	3000	70	255955	10	39
	148	3000	70	243998	10	47

Estimating Guide: 1 linear metre per metre run of partition, head track only. Compliance: EN 14195.

Knauf 'U' Channel – Perimeter Support

Galvanised steel section for use as standard head and floor track for Knauf Wall Liner system and as perimeter channel for Knauf C-Form ceiling systems.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.55	20	3000	20/30	255956	10	9

Estimating Guide: 2 linear metres per metre run of wall liner. 1 linear metre per linear metre of perimeter for ceiling systems. Compliance: EN 14195.

'I' Studs & Staggered Stud

Knauf 'I' Studs

High-quality galvanised lightweight steel sections for use in non-load-bearing Knauf partition and wall lining systems allowing increased partition heights to be designed for, while providing improved robustness and impact resistance.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.55	50	2700	40	243944	10	21
		3000	40	243947	10	23
	60	3600	40	243952	10	34
		4200	40	243954	10	40
0.70	70	3600	40	243958	10	39
		4200	40	243963	10	46
0.90	92	5000	40	243973	10	77
		6000	40	243974	10	93
	146	6000	40	243941	10	116

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

Knauf Staggered Stud Clip

Spacer used to locate Knauf 'I' Studs in Knauf Silent Spacesaver partition systems.

	Dimensions (mm)				Material No.	Pack Details	
Gauge	Stud size	Length	Width	Depth		Items/Pack	Kg (approx.)
0.55	60	38	10	30	258332	100	1.3
0.90	92	38	54	30	258331	100	2.5

Estimating Guide: 3.3 clips per linear metre of partition (based on 300mm staggered centres). Compliance: EN 14195.

'MW' Stud & 'UW' Channel

Knauf 'MW' Stud

Galvanised lightweight steel section for use in non-load-bearing Knauf partition systems where increased acoustic performance is required.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.60	100	3000	50	38697	8	23

Estimating Guide: 1.67 linear metres per m² partition (based on 600mm centres). Compliance: EN 14195.

Knauf 'UW' Channel

Galvanised steel section for use as the standard head and floor track for Knauf 'MW' Stud partitons.

	Dimensions (mm)			Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.60	102	2000	40	8447	8	14

Estimating Guide: 2 linear metres per metre run of partition, head and floor track. Compliance: EN 14195.

Ceiling & Wall Lining

Knauf 'C' Channel

Galvanised lightweight steel section for use in Knauf wall lining systems and Knauf C-Form ceiling systems.

Dimensions (mm)			Material No.	Pack Details	
Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
47	2400	17	243792	10	11
	2700	17	243795	10	12
	3000	17	70887	10	13
	4000	17	70889	10	18

Estimating Guide: 1.67 linear metres per m² of wall lining (based on 600mm centres). Compliance: EN 14195.

Knauf Channel Intersection Connector

Locates primary and secondary channels in the Knauf C-Form ceiling system.
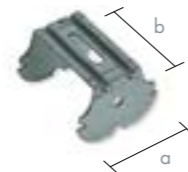
Dimensions (mm)		Material No.	Pack Details	
a	b		Items/Pack	Kg (approx.)
36	49	258298	100	2

Estimating Guide: 1.1 Connectors per m² of C-Form ceiling.

Knauf 'C' Channel Connector

Used to join two sections of Knauf 'C' Channel in Knauf C-Form ceiling systems.

Dimensions (mm)			Material No.	Pack Details	
Webb	Flange	Width		Items/Pack	Kg (approx.)
45	15	98	258296	100	3

Knauf Universal Bracket

Supplied flat, the Knauf Universal Bracket locates the Knauf 'C' Channel to the background support. Can be separated to form 2 single channel hangers.

Dimensions (mm)		Material No.	Pack Details	
Webb	Flange		Items/Pack	Kg (approx.)
46	127	258291	100	7

Estimating Guide: Fix at 900mm vertical centres for wall lining. 0.7 hangers per m² of ceiling: C-Form.

Knauf Soffit Cleat

Cleat to connect ceiling system to the structural soffit of the building. Pre-drilled to take the required fixings.

Dimensions (mm)	Material No.	Pack Details	
		Items/Pack	Kg (approx.)
25 x 25	258329	100	2

Ceiling & Wall Lining

Knauf Strap Hanger

Suspension strap to support Knauf C-Form and Knauf MF Ceiling systems, this product connects to the soffit cleat and can be simply cut to the length required for ease of installation.

Dimensions (mm)			Material No.
Webb	Length	Width	
0.55	25000	25	258287

Knauf MF Connecting Clip

Secures the Knauf MF Ceiling Channel to the Knauf MF Primary Support Channel.

Dimensions (mm)	Material No.	Pack Details	
Gauge		Items/Pack	Kg (approx.)
2.65	258294	200	2

Knauf MF Ceiling Channel

Galvanised steel main channel section for the Knauf MF Ceiling system to which the Knauf Plasterboard is fixed – always fix the board using Knauf Screws.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Length	Depth	Width		Lengths/Pack	Kg (approx.)
0.55	3600	26	80	243990	50	97

Estimating Guide: 1.67 linear metres per m² of ceiling (based on 600mm centres with 15mm plasterboard).

Knauf MF Perimeter Channel

Galvanised steel section to be used around the perimeter of Knauf MF Ceiling systems.

Dimensions (mm)					Material No.	Pack Details	
Gauge	Length	Upper Depth	Lower Depth	Width		Lengths/Pack	Kg (approx.)
0.55	3600	20	30	27	243991	20	22

Estimating Guide: 1 linear metre per linear metre of perimeter for ceiling systems.

Knauf MF Primary Support Channel

Galvanised steel section to be used as the main cross-section and hanger support section of the Knauf MF Ceiling system.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Length	Depth	Width		Lengths/Pack	Kg (approx.)
0.80	3600	15	45	243992	20	34

Estimating Guide: 0.83 linear metres per m² of ceiling (for single or double layered systems).

Knauf MF Nut and Bolt

Nut and bolt for fixing strap hanger to the soffit cleat.

Dimensions (mm)	Material No.	Pack Details	
Diameter		Items/Pack	Kg (approx.)
6	258293	200	3

Shaftwall System

Knauf Shaftwall systems offer economic solutions to provide non-load-bearing lift or stair enclosures, utilising a lightweight framework built from one side.

Knauf 'C-T' Stud

Unique galvanised steel section used in the Knauf Shaftwall system to allow quick and safe construction from one side with the minimum number of components.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.92	60	3000	38.5	243804	10	42
		4500	38.5	243811	10	63
	92	4500	38.5	243818	10	73
		5500	38.5	243819	10	89
	146	5500	38.5	243801	10	110
		6500	38.5	243802	10	130

Estimating Guide: 1.67 linear metres per m² of Shaftwall (based on 600mm centres). Compliance: EN 14195.

Knauf 'J' Channel

High-quality galvanised steel section used as head and floor track and perimeter framing section of the Knauf Shaftwall system.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.92	62	3000	25/70	243977	10	32
		4500	25/70	243983	10	49
	94	4500	25/70	243988	10	59
		5500	25/70	243989	10	72
	148	5500	25/70	243975	10	93
		6500	25/70	243976	10	110

Estimating Guide: 2 linear metres per metre run of Shaftwall, head and floor track. Compliance: EN 14195.

Knauf Core Board Channel

High-quality galvanised steel section used to provide fixing for horizontal Knauf Core Board joints to ensure fire protection of the Knauf Shaftwall system.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Lengths/Pack	Kg (approx.)
0.55	20	3600	10/20	243799	10	8.0

Estimating Guide: 1 linear metre per metre run of Shaftwall. Compliance: EN 14195.

Knauf Resilient Bar

Robust Detail compliant resilient metal section which is fixed to floors and partitions to reduce direct sound transmission. Knauf Resilient Bar can be used in any Robust Detail where it states that a resilient bar must be used.

Dimensions (mm)			Material No.	Pack Details	
Gauge	Size	Length		Lengths/Pack	Kg (approx.)
0.55	50	3000	258288	10	11

Metal Accessories

Knauf Metal Furring Channel

Galvanised steel section installed using Knauf Plasterboard Adhesive as a metal wall lining furring.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Length	Width	Depth		Lengths/Pack	Kg (approx.)
0.55	2400	50	9.5	258289	10	25

Knauf Flat Fixing Plate

Lightweight galvanised steel fixing plate for use within partitions, wall linings and ceilings. Used as a part of a deflection head as well as to improve rigidity or for horizontal board joints where required.

Dimensions (mm)			Material No.	Pack Details	
Gauge	Size	Length		Lengths/Pack	Kg (approx.)
0.70	70	2400	258300	10	12

Compliance: EN 14195.

Knauf Fixing Channel

Lightweight galvanised steel fixing plate with flanges for additional rigidity over the flat fixing plate, for use with partitions and wall linings.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size	Length	Flange		Lengths/Pack	Kg (approx.)
0.70	96	2400	9.5	258299	10	16

Compliance: EN 14195.

Knauf Angle Sections

Galvanised mild steel angles for use with partitions, column and beam encasements and suspended ceilings.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size	Length	Angle (deg°)		Lengths/Pack	Kg (approx.)
0.70	25 x 25	3000	90	258285	10	11
0.70	25 x 50	3000	90	258286	10	16

Knauf Fixing Clip

Part of the Knauf Encasement system.

Dimensions (mm)		Material No.	Pack Details	
Length	Height		Items/Pack	Kg (approx.)
45	28	258330	50	2

Estimating Guide: 4 clips per linear metre of column. 2 clips per linear metre of beam.

Specialist Systems

Knauf Apertura, our decorative acoustic panel system, is the ideal sound absorption solution and can achieve an industry-leading Class B performance. Along with Knauf Aquapanel Interior and Exterior, it forms part of our innovative range of specialist solutions.

Aquapanel Interior

Knauf Aquapanel Interior Boards and Accessories

Aquapanel Interior is a glass fibre reinforced cement board designed to be used as a high-performance tile backing board. It will not deteriorate in water and offers very high impact resistance. It is also ideal as a general building board. Refer to the Knauf Aquapanel Interior brochure for Aquapanel Interior installation guidelines for commercial applications or contact Knauf Technical Services for more information.

Knauf Aquapanel Interior Cement Board

Knauf Aquapanel Interior is a tough, impact-resistant glass fibre reinforced cement tile backer for use in wet and humid areas.

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m^2	Tonnes (approx.)
12.5	900	1200	87249	50	54.0	0.81
12.5	900	2400	87251	25	54.0	0.81

Note: 2400mm long board is recommended for use in commercial applications.

Knauf Aquapanel Floor Tile Underlay

Now Aquapanel technology is available in a thin tile underlay for floors. Aquapanel Floor Tile Underlay is made from tough Portland cement and has a coated fibre mesh embedded in the core. At only 6mm thick, room height is not compromised. Will not rot or warp.

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m^2	Tonnes (approx.)
6	900	1200	240211	50	54.0	0.46

Knauf Aquapanel Interior Screws

Ceramic coated screws for fixing Aquapanel Interior to timber studs.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Packs per Carton	Kg (approx.)
40	4.2	258325	10	3.3

Knauf Aquapanel Maxi Screws (SN)

Corrosion-protected screws for fixing Aquapanel Interior to light gauge steel profiles (up to 0.7mm) as part of Knauf Aquapanel Interior and Exterior systems. They have a needle point and countersunk heads.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Carton	Kg (approx.)
25	4.2	87319	1000	1.8
25	4.2	159515	150	0.25
39	4.2	53500	500	2.0
55	4.2	95644	250	2.0

Knauf Aquapanel Interior Joint Adhesive

Gun-applied PU adhesive used for jointing Aquapanel Interior Cement Boards, as part of Aquapanel Interior systems.

Cartridge Size (mm)	Material No.	Pack Details
ml		Cartridges per Pack
310	49376	20

Shelf life: 12 months. Estimating Guide: 1 Cartridge is sufficient to joint approximately 6m^2 of wall.

Aquapanel Interior

Knauf Aquapanel Interior Joint Tape

Alkaline-resistant joint tape for use in non-commercial applications where Aquapanel Interior is to be jointed using tile adhesive.

Roll Size	Material No.	Carton Details	
m		Rolls per Carton	Kg (approx.)
20	258339	12	1.65

Knauf Aquapanel Board Primer

Pre-mixed synthetic dispersion for priming Aquapanel Interior after jointing and filling.

Tub Size	Material No.	Pallet Details	
Kg		Tubs	Tonnes (approx.)
15	49279	24	0.36

Shelf life: 12 months. Estimating Guide: Coverage 40-60g/m², 1:2 dilution ratio with water.

Knauf Aquapanel Interior Joint Filler & Skim Coat – White

Cement-bound material for skim coating Aquapanel Interior in non-tiled areas. Aquapanel Exterior Reinforcing Mesh must be embedded.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
20	131095	48	1.0

Shelf life: 12 months. Estimating Guide: 3.5Kg/m² for full surface skim.

Knauf Aquapanel Interior Skim

Ready-mixed water-resistant skim coat for use over Aquapanel Interior to create a smooth and level finished surface, ready for painting.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	258278	40	0.8

Shelf life: 9 months. Estimating Guide: Coverage 10m² per bag at 1.5mm thickness.

Aquapanel Exterior

Knauf Aquapanel Exterior Boards and Accessories

Aquapanel Exterior cement board technology sets new standards for the design and construction of buildings across Europe. Aquapanel Exterior systems offer a high-quality and economical alternative to traditional methods of construction, such as brick and block. It provides a solid, dry base that can withstand the extreme weathering effects of wind, rain and snow. It is an ideal substrate for Aquapanel Plaster and other render finishes (subject to approval). It can be used for exterior walls in ventilated systems, water managed (directly-applied) systems, exterior ceilings and soffits.

Knauf Aquapanel Exterior Cement Board

Knauf Aquapanel Exterior is a tough cement board for exterior use with a Portland cement and aggregate core and coated glass fibre mesh embedded in the back and front surfaces. Ends are square cut and edges are reinforced and finished smoothly.

Dimensions (mm)			Material No.	Pallet Details		
Thickness	Width	Length		Boards	m²	Tonnes (approx.)
12.5	900	1200	63117	50	54.0	0.87
	900	2400	50111	25	54.0	0.87

Knauf Aquapanel Maxi Screws (SN)

Corrosion-protected screws for fixing Aquapanel Cement Board to light gauge steel profiles (up to 0.7mm) as part of Aquapanel Interior and Exterior systems. They have a needle point and countersunk heads.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Carton	Kg (approx.)
25	4.2	87319	1000	1.8
25	4.2	159515	150	0.25
39	4.2	53500	500	2.0
55	4.2	95644	250	2.0

Knauf Aquapanel Exterior Maxi Screws (SB)

Aquapanel Exterior Maxi Screws have been specially developed for fixing Aquapanel Exterior onto heavy gauge steel profiles (0.8mm–2.0mm) as part of the Aquapanel Exterior system. They have a drill point and countersunk heads.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Carton	Kg (approx.)
25	4.2	94730	250	1.5

Knauf Aquapanel Exterior Stainless Steel Screws (SN)

40mm stainless steel screws specially developed for fixing Aquapanel Exterior to timber substructures.

Dimensions (mm)		Material No.	Pack Details	
Length	Diameter		Items per Carton	Kg (approx.)
40	4	87197	250	0.7

Knauf Aquapanel Exterior Joint Filler – Grey

Aquapanel Exterior Joint Filler – Grey is a cement-based material for filling joints and embedding Aquapanel Exterior Joint Tapes and Aquapanel Exterior Reinforcing Mesh as part of the Aquapanel Exterior system.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
20	131094	48	1.0

Estimating Guide: One bag will cover approximately 28m².

Aquapanel Exterior

Knauf Aquapanel Exterior Joint Tape

Aquapanel Exterior Joint Tape is a 100mm wide, glass fibre tape with an alkaline-resistant coating. It is embedded into Aquapanel Exterior Joint Filler to reinforce exterior joints as part of the Aquapanel Exterior system.

Roll Size		Material No.	Carton Details	
Length (m)	Width (mm)		Rolls per Carton	Kg (approx.)
50	100	49373	12	4

Estimating Guide: 2.1m/m².

Knauf Aquapanel Exterior Reinforcing Tape

Aquapanel Exterior Reinforcing Tape is a 330mm wide meshed glass fabric. It is embedded in Aquapanel Exterior Joint Filler to reinforce exterior joints where paint or alternative finishes are to be applied on top of the Aquapanel Exterior Basecoat, as part of the Aquapanel Exterior system.

Roll Size		Material No.	Carton Details	
Length (m)	Width (mm)		Rolls per Carton	Kg (approx.)
50	330	59051	12	10

Estimating Guide: 2.1m/m².

Knauf Aquapanel Exterior Reinforcing Mesh

Aquapanel Exterior Reinforcing Mesh is a 1m wide, alkaline-resistant glass fabric mesh designed for complete cover reinforcement of Aquapanel Exterior Basecoat as part of the Aquapanel Exterior system.

Roll Size		Material No.	Pallet Details	
Length (m)	Width (m)		Rolls per Pallet	Kg (approx.)
50	1	58546	25	375

Estimating Guide: 1.1m²/m².

Knauf Aquapanel Exterior Tyvek® StuccoWrap™

Aquapanel Exterior Tyvek® StuccoWrap™ is a special climatic membrane to be used as a water barrier from the outside to the inside, which allows vapour diffusion from the inside to the outside. It is used in water managed (directly applied) systems, installed as a water-carrying layer directly behind the board as part of the Aquapanel Exterior system.

Roll Size		Material No.	Pallet Details	
Length (m)	Width (m)		Rolls per Pallet	Kg (approx.)
75	1.5	58548	16	0.8

Estimating Guide: 1.1m²/m².

Knauf Aquapanel Exterior Basecoat – White

Aquapanel Exterior Basecoat – White is a cement-based synthetic resin-enhanced material which serves as a complete basecoat as part of the Aquapanel Exterior system. The drying time is only 24 hours. It dries to a white colour with a smooth surface, ideal underneath light coloured finishes.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	102812	42	1.05

Estimating Guide: One bag will cover approximately 4m², at a minimum thickness of 5mm.

Aquapanel Exterior

Knauf Aquapanel Exterior Basecoat – Grey

Aquapanel Exterior Basecoat – Grey is a Portland cement-based, synthetic resin-enhanced basecoat to serve as a complete basecoat on Aquapanel Exterior Cement Board. The drying time is 1 day per mm of thickness e.g. 5 days for 5mm thickness.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
25	49157	42	1.05

Estimating Guide: One bag will cover approximately 3.2m², at a minimum thickness of 5mm.

Knauf Aquapanel Basecoat Primer

Aquapanel Basecoat Primer is a pre-mixed, white coloured, water-based emulsion for priming basecoated substrates where Aquapanel Exterior finishes are used as part of the Aquapanel Exterior system.

Tub Size	Material No.	Pallet Details	
Kg		Tubs	Tonnes (approx.)
15	49299	24	0.36

Estimating Guide: One tub will cover approximately 100m².

Knauf Aquapanel Exterior Silicon Synthetic Resin Plaster

Aquapanel Exterior Silicon Synthetic Resin Plaster is a white, ready-to-use, finishing plaster with a maximum grain size of 2mm for applying on Aquapanel Exterior Basecoat and Aquapanel Exterior Primer. It is water-repellent and allows diffusion with sd > 0.1m.

Tub Size	Material No.	Pallet Details	
Kg		Tubs	Tonnes (approx.)
25	49320	24	0.6

Estimating Guide: One tub will cover 8m².

Knauf Aquapanel Exterior Dispersion Plaster

Aquapanel Exterior Dispersion Plaster is a white, ready-to-use, finishing plaster with a maximum grain size of 2mm for applying on Aquapanel Exterior Basecoat and Aquapanel Exterior Primer. It is water-repellent and allows diffusion with sd > 0.1m.

Tub Size	Material No.	Pallet Details	
Kg		Tubs	Tonnes (approx.)
25	87268	24	0.6

Estimating Guide: One tub will cover 8m²

Knauf Aquapanel Exterior Mineral Finish Plaster – White

Aquapanel Exterior Mineral Finish Plaster – White is a decorative plaster with a maximum grain size of 2mm, for application on top of Aquapanel Exterior Basecoat either as a smooth floating finishing render or freely structured using different tools and designs. It is also available in 212 colour shades, subject to a premium and a minimum order quantity – please contact Knauf for details.

Bag Size	Material No.	Pallet Details	
Kg		Bags	Tonnes (approx.)
30	100286	36	1.08

Estimating Guide: One bag will cover approximately 10m² at 2mm thickness.

Knauf Apertura

Knauf Apertura Plasterboards combine aesthetic appearance and high sound absorption properties to reduce sound reverberation. And the new generation of Knauf Apertura Plasterboards have a unique FF edge profile, a lapped edge on two sides of the panel, helping to ensure boards are correctly spaced and minimising the amount of jointing material required to create a perfect seamless finish.

Knauf Apertura Circular Perforated Plasterboards (FF Edge)

The Knauf Apertura Circular Perforated Plasterboard range offers seven sizes of circular straight line perforation, five with one perforation size and two with two perforation sizes. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered edges to enable a unique seamless finish when jointed with Knauf Uniflott. An installation kit is available to ensure that the perforations are accurately lined up.

One Size of Perforation

Aperture	Dimensions (mm)					Material No.	Fleece	Weight
Circular	a	b	Thickness	Width	Length		Colour	Kg/m²
6/18	6	18	12.5	1188	1998	94387	White	10.7
6/18	6	18	12.5	1188	1998	94386	Black	10.7
8/18	8	18	12.5	1188	1998	94397	White	9.9
8/18	8	18	12.5	1188	1998	94394	Black	9.9
10/23	10	23	12.5	1196	2001	94421	White	9.9
10/23	10	23	12.5	1196	2001	94420	Black	9.9
12/25	12	25	12.5	1200	2000	94429	White	9.6
12/25	12	25	12.5	1200	2000	94428	Black	9.6
15/30	15	30	12.5	1200	1980	94446	White	9.3
15/30	15	30	12.5	1200	1980	94445	Black	9.3

Area of Perforation: 6/18 = 8.7%   8/18 = 15.5%   10/23 = 14.8%   12/25 = 18.1%   15/30 = 19.6%.

Two Sizes of Perforation

Aperture	Dimensions (mm)						Material No.	Fleece	Weight
Circular	a	b	c	Thickness	Width	Length		Colour	Kg/m²
8/12/50	8	12	50	12.5	1200	2000	94465	White	10.2
8/12/50	8	12	50	12.5	1200	2000	94464	Black	10.2
12/20/66	12	20	66	12.5	1188	1980	94475	White	9.4
12/20/66	12	20	66	12.5	1188	1980	94474	Black	9.4

Area of Perforation: 8/12/50 = 13.1%   12/20/66 = 19.6%.

Knauf Apertura Square Perforated Plasterboards (FF Edge)

The Knauf Apertura Square Perforated Plasterboard range offers two sizes of square straight line perforation. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

Aperture	Dimensions (mm)					Material No.	Fleece	Weight
Square	a	b	Thickness	Width	Length		Colour	Kg/m²
8/18	8	18	12.5	1188	1998	94413	White	9.4
8/18	8	18	12.5	1188	1998	94412	Black	9.4
12/25	12	25	12.5	1200	2000	94438	White	9.2
12/25	12	25	12.5	1200	2000	94437	Black	9.2

Area of Perforation: 8/18 = 19.8%   12/25 = 23%.

Knauf Apertura

Knauf Apertura Random Circular Perforated Plasterboards (FF Edge)

The Knauf Apertura Random Circular Perforated Plasterboard range offers two types of random circular perforation. Each board has circular perforations of three different sizes in a random pattern. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

Aperture	Dimensions (mm)						Material No.	Fleece	Weight
Circular/Random	a	b	c	Thickness	Width	Length		Colour	Kg/m²
8/15/20	8	15	20	12.5	1200	1875	94484	White	10.5
8/15/20	8	15	20	12.5	1200	1875	94483	Black	10.5
12/20/35	12	20	35	12.5	1200	1875	94496	White	10.5
12/20/35	12	20	35	12.5	1200	1875	94495	Black	10.5

Area of Perforation: 8/15/20 = 9.9%   12/20/35 = 9.8%.

Knauf Apertura Slot Patterned Plasterboards (Square Edge)

The Knauf Apertura Slot Patterned Plasterboard range offers three types of slot pattern. They are supplied backed with an acoustic lining in either black or white. Each board has square edges and should be jointed with Knauf Uniflott.

Pattern	Dimensions			Material No.	Fleece	Weight
Slot	Thickness	Width	Length		Colour	Kg/m²
B4	12.5	1200	2400	286425	White	9.6
B4	12.5	1200	2400	286426	Black	9.6
B5	12.5	1200	2400	286427	White	9.6
B5	12.5	1200	2400	286428	Black	9.6
B6	12.5	1200	2400	286429	White	9.6
B6	12.5	1200	2400	286430	Black	9.6

Area of Perforation: B4 = 13.7%   B5 = 10.9%   B6 = 15.7%.   Terms Category: 34   Material Pricing Group: 31

Knauf Apertura Square Patterned Plasterboards (FF Edge)

The Knauf Apertura Square Patterned Plasterboard range offers two types of square pattern. They are supplied backed with an acoustic lining in either black or white. Each board has precision-engineered lapped edges to enable a unique seamless finish to be achieved when jointed with Knauf Uniflott.

Pattern	Dimensions			Material No.	Fleece	Weight
Square	Thickness	Width	Length		Colour	Kg/m²
B4	12.5	1200	2400	286412	White	9.6
B4	12.5	1200	2400	286413	Black	9.6
B6	12.5	1200	2400	286416	White	9.6
B6	12.5	1200	2400	286417	Black	9.6

Area of Perforation: B4 = 14.4%   B6 = 16.3%.

Knauf Apertura

Apertura Linear Perforated Plasterboards

The Knauf Apertura Linear Perforated Plasterboard range offers a unique installation requiring no jointing when used in conjunction with Knauf Apertura Linear Caps. This system offers a very quick and clean installation while still providing excellent acoustic performance and aesthetic design. Knauf Apertura Linear is available in three sizes of circular perforation and one random circular perforation

One Size of Perforation

Aperture	Dimensions (mm)					Material No.	Fleece	Weight
Circular	a	b	Thickness	Width	Length		Colour	Kg/m²
8/18	8	18	12.5	1188	1998	146210	White	9.9
8/18	8	18	12.5	1188	1998	146208	Black	9.9
10/23	10	23	12.5	1196	2001	146213	White	9.9
10/23	10	23	12.5	1196	2001	146212	Black	9.9
12/25	12	25	12.5	1200	2000	146217	White	9.6
12/25	12	25	12.5	1200	2000	146215	Black	9.6

Area of Perforation: 8/18 = 15.5%   10/23 = 14.8%   12/25 = 18.1%.

Two Sizes of Perforation

Aperture	Dimensions (mm)						Material No.	Fleece	Weight
Circular	a	b	c	Thickness	Width	Length		Colour	Kg/m²
12/20/66	12	20	66	12.5	1188	1980	146221	White	9.4
12/20/66	12	20	66	12.5	1188	1980	146220	Black	9.4

Area of Perforation: 12/20/66 = 19.6% .

Apertura Linear Caps

Knauf Apertura Linear Caps and screws allow Knauf Apertura Linear boards to be fixed to the ceiling grid or wall liner without the need to fill the joints or cover screw heads. Each carton contains 500 caps and 500 screws.

Diameter (mm)	Material No.	Carton Details	
		Items per Carton	Kg (approx.)
8	248099	500	0.54
10	248102	500	0.54
12	248103	500	0.54

Apertura Metal Components

Knauf Apertura 'U' Mounting Bracket

Locates Knauf Apertura 'C' Channel to background support. Supplied with 35mm self-tapping fixing screws.

Dimensions (mm)			Material No.	Pack Details	
Size/Webb	Length	Flange		Items per Pack	Kg (approx.)
53	125	30	258290	100	7

Knauf Apertura 'C' Channel

Galvanised lightweight steel section for use as a primary and secondary support channel for Knauf Apertura and Wall Lining systems.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Items per Pack	Kg (approx.)
0.55	60	3000	27	243790	10	21

Knauf Apertura 'U' Channel

Galvanised steel section for use with the Knauf Apertura Ceiling and Wall Lining systems.

Dimensions (mm)				Material No.	Pack Details	
Gauge	Size/Webb	Length	Flange		Items per Pack	Kg (approx.)
0.55	30	3000	27	243791	10	21

Knauf Apertura Channel Hanger

Locates into the primary support channel in the Knauf Apertura Ceiling system.

Dimensions (mm)		Material No.	Pack Details	
Length	Width		Items per Pack	Kg (approx.)
90	58.5	258292	100	4

Knauf Apertura Channel Intersection Connector

Locates primary and secondary channels in the Knauf Apertura Ceiling system.
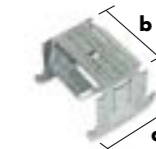
Dimensions (mm)		Material No.	Pack Details	
a	b		Items per Pack	Kg (approx.)
58	62	258297	100	5

Knauf Apertura 'C' Channel Connector

Used to extend Knauf Apertura 'C' Channel.

Dimensions (mm)			Material No.	Pack Details	
Size/Webb	Length	Flange		Items per Pack	Kg (approx.)
58.5	80	25	258295	100	10

Apertura Jointing & Accessories

Knauf Uniflott

Knauf Uniflott is a specially formulated joint compound for use with Knauf Apertura Plasterboards to create a seamless finish.

Bag Size	Material No.	Pack Details	
Kg		Bags	Tonnes (approx.)
25	253631	42	1.05

Available as part pallet   Shelf life: 6 months.   Estimating Guide: One bag will finish approximately 21m² of board.

Knauf Uniflott Applicator

Gun applicator for applying Knauf Uniflott.

Material No.	Pack Details
	Items per Pack
50254	1

Knauf Apertura Installation Kit

Consists of two Assembly Aids to help with setting of perforation spacing for circular perforated boards.

To Fit Perforation	Material No.
Circular	
6/18	83280
8/18	83281
10/23	83282
12/25	83283
15/30	83284
8/12/50	83285
12/20/66	83286

Flooring products have their own dedicated brochures

Our flooring brochures contain information on Knauf Brio, our interlocking dry floor screed system for multiple applications, and on the Knauf GIFAfloor range of high-performance flooring products for commercial environments. For further information visit: www.knauf.co.uk

Knauf and You

We believe that working with you in partnership is the best way to help produce a superb finished result that your client will be proud of.

These pages provide some insight into our expertise, our service ethos and some of the many ways that we can work with you to help you achieve your aims.

Knauf and You

Training

Comprehensive training on drywall and plastering systems.

Knauf dedicated training centres

We have purpose-built, fully equipped training centres based in Sittingbourne and Immingham. The premises are set up in accordance with CITB requirements for the provision of both short duration and NVQ qualified training in the construction of plasterboard systems.

Wide-ranging courses

From these centres, a variety of courses are run providing practical training on the design and construction of plasterboard systems. These include partitions, wall linings, suspended ceilings, fire protection and shaftwall. Training is also provided on taping and jointing and plastering (both hand and machine applied in both cases). All tools and equipment are supplied to trainees during their time on the course.

Experience and expertise

Our training centres are staffed by experienced instructors, all of whom have a wealth of expertise in the construction industry and specialise in either plastering or drywall work. Find out more at:

Training Family Groups

1	Product/Systems Training
2	Direct Bonding & Metal Furring
3	Plasters • Basic Plastering • Machine Application • Airless • MP75 • MP Finish
4	Jointing • Taping and Jointing (hand applied)
5	Metal Systems • Metal Stud Partitions • Shaftwall Partitions • Suspended Ceiling • Wall Linings (fixed and independent)
6	Dry Floor Systems • Brio • GIFA
7	Facades
8	Fire Protection of structured steel
9	Drywall for Site Managers

Typical course content

Direct Bonding & Metal Furring
Duration: 1 day

This course covers the skills and knowledge required to carry out drylining using gypsum plasterboards to industry standards, covering the direct bonding and metal furring methods of drylining, and is designed for tradespersons of varying abilities who require specific training in drylining using these methods. Trainees will receive instruction in the interpretation of drawings and specifications, the selection of appropriate systems and materials and concentrating on the setting out and installation of these systems. The course will also include instruction in health and safety matters, and reference to all relevant British Standards and Codes of Practice.

Training objectives

On completion of the training the trainee will:
- Have a good working knowledge of health and safety requirements for drylining, including correct personal protective clothing where applicable
- Be able to interpret drawings and specifications to identify material requirements for a given task
- Select and prepare appropriate materials for a given task, and prepare backgrounds to receive finishes as required
- Install components and materials to form drylinings to industry standards for accuracy and finish

Instructors' qualification

Knauf Technical Instructors are all time-served tradespersons in drylining, plastering and associated trades, and have received full training on top of extensive experience in our industry. All Knauf Technical Instructors are approved NVQ assessors for Drylining and Plastering, and the Knauf Training Centre is suitable for the delivery of training and assessment to meet NVQ standards.

Achievement measurement

Trainees will be assessed during the course as the instructors observe and discuss their progress and offer advice. An attendance certificate will be issued to all those who successfully complete the course.

You can contact Knauf Technical Services on 01795 416259.

Environment

We at Knauf are completely committed to a high standard of environmental responsibility, including manufacturing to ISO 14001.

Environmental issues and sustainable building are at the forefront of everyone's minds – manufacturer, architect, contractor, building owner and building user.

If you're working for a Local Authority you'll know that they have specific environmental requirements, and many of your direct customers are probably just as environmentally demanding too... and rightly so.

The product
Our plasterboard is manufactured from the most sustainable sources of gypsum available and we only use 100% recycled paper liners.

Knauf plasterboard is durable, does not naturally deteriorate and is also simple to recycle, something we can help with.

The same is true of our metal systems – built to last and entirely recyclable when required.

We work with contractors to reduce on-site waste and increase their recycling capacity.

The buildings our product goes into
Not only do your buildings use recyclable, environmentally low impact Knauf plasterboards in their construction, but our insulating products add to energy efficiency, reduce CO_2 emissions and help meet the Building Regulations.

We're not only talking about new build; the same applies to the refurbishment of existing housing stock, schools, commercial or industrial premises – plasterboard constructions using our products achieve 'A' ratings in BRE's Green Guide to Specification.

How we make it
Our factories are modern, ultra-efficient and use sophisticated heat recovery systems to minimise energy wastage. We are continuing to investigate and invest in alternative energy sources to reduce our impact on the environment further.

Our sites are responsibly run under the ISO 14001 accreditation scheme for environmental management.

So, whether you are using a plain ivory Wallboard, a pink Fire Panel, a blue Soundshield Plus or a mustard Impact Panel board, you and your customers can be comfortable that they are fundamentally well and truly green.

Further information:

Environment

These are just some of the ways that we are contributing to a sustainable built environment.

Product range
- Knauf systems achieve 'A' ratings in BRE's Green Guide to Specification.
- Our Insulating Laminate range provides instant energy saving
- Our plasterboard is easily recyclable
- Aquapanel prevents tile failures and associated waste from damaged materials
- Safeboard X-ray plasterboard removes the need for lead in X-ray departments
- Brio Dry Screed boards reduce the ongoing energy usage of a building by improving the efficiency of underfloor heating systems
- Our High Performance Plasterboards reduce the volume of material required for a site by reducing the number of layers required for a given performance

Factory efficiency
- Insulated, with energy-efficient lighting throughout
- Heat exchangers from driers save approximately 10% of our plant's energy requirements
- Sophisticated energy management software optimises our energy usage
- We partner The Carbon Trust on future targets
- We are assessing and trialling alternative energy supplies including combined heat and power (CHP) and wind
- Our sites are ISO 14001 certified for environmental management
- We hold accreditation to ISO 14001 and BES 6001 at both our sites

Factory recycling
- We reprocess scrap metal back into our manufacturing process to reduce waste
- Paper and cardboard are pulped back into production
- Waste plastics are remelted into damp proof courses
- Scrap timber is turned into chippings for gardens
- Scrap metal is recycled locally
- Used oil is collected for recycling
- Our overalls are managed by a single company to minimise water and energy usage

Transportation efficiency
- Our fleet uses the latest fuel-efficient trucks
- We supply in full loads to maximise efficiency
- Our trucks are used to deliver other goods from the area of drop to ensure the maximum number of journeys are full, reducing wasted 'empty' journeys
- We are trialling alternative transport methods such as barges

Design and construction
- Our project team actively designs-out waste and optimises systems and logistics for contractors
- The Knauf Eco Door Jamb detail is saving thousands of square metres of waste plasterboard on commercial projects
- We work with our contractors to reduce the amount of waste gypsum from sites and incorporate recycled gypsum in our products

Further information:

Insulating Laminates	112
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Aquapanel Interior	184
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Waste Management

Plasterboard recycling

As part of our comprehensive service ethos we are committed to helping contractors with their recycling requirements wherever practical. We work closely with a number of specialist recycling partners who are able to provide a range of collection and recycling services to sites. These partners are selected for both their level of service and for their ability to recycle the site waste plasterboard into a contamination-free raw material that we can re-use into manufacturing new plasterboard.

European legislation is in place to prevent high sulphate wastes, such as gypsum, from being landfilled with other biodegradable material unless placed in a dedicated sulphate cell. In practice, this means that the majority of gypsum waste, such as plasterboard, is instead recycled, which we absolutely support. Plasterboard can nearly always be recycled and both the paper and gypsum re-used to manufacture new plasterboard; one of the reasons plasterboard systems have such a high 'Green Guide' rating.

Most specialist recycling contractors offer a range of bags, bins, skips and containers to ensure that an adequate waste holding capacity is provided as close as possible to the point of need. It is important to separate waste plasterboard from other site wastes to prevent contamination that could prevent the material being recycled and re-used.

The positioning of plasterboard waste receptacles and the types used are dependant on the size of the building project and the space available on site. These should be planned to minimise the physical handling of plasterboard waste.

You can contact Knauf Technical Services on 01795 416259.

Minimising waste by good design

Most drywall projects generate waste – there's a 10% waste factor on many building sites, and in some cases it's up to 25%. Few offcuts are suitable for use elsewhere on a particular building site, so most go to waste.

There are many good reasons for the inevitability of plasterboard waste and offcuts: doorways, windows, irregular room shapes and non-standard ceiling heights are typical examples.

We've looked carefully at various sources of plasterboard waste to explore how it can be reduced or avoided, and we can advise on detailing to reduce waste. For example, a floor-to-soffit height of 2,400mm means that most plasterboard products will fit precisely. Higher or lower soffits mean additional effort and potential waste. If a non-standard height is unavoidable, we can help with cut-to-length plasterboard solutions – provided they are ordered in plenty of time (minimum order quantities may apply).

Our Project Specification Managers and Technical Team are always available to discuss how you can maximise your design options in plasterboard – and minimise waste.

What products can be recycled through this method?

- Knauf Wallboard, Knauf Plank, Knauf Baseboard, Knauf Coreboard
- Knauf Sound Panel, Knauf Fire Panel, Knauf Moisture Panel
- Knauf Impact Panel
- Knauf Performance Plus
- Knauf Apertura, Knauf Cove
- Brio

Typical collection systems used on sites

Bulk bags 1m³ bulk waste bags are used to collect plasterboard waste from house building sites. They can be placed anywhere within range of a lorry-mounted crane, for easy removal.

Wheelie bins (660 litre) 660 litre wheelie bins are used in large or high rise buildings and can be moved close to the installers for convenience. They are taken to a central point for loading into a mobile compaction unit.

Skips (6–14 yards) 5–11m³ skips are used on medium to large sites where centralised waste collection is a convenient solution.

Ro-Ro skips (35–40 yards) 27–31m³ roll-on, roll-off containers are used on major sites that generate large waste streams and where storage space is not at a premium.

How plasterboard site waste is recycled

Raw material
We use a high percentage of FGD gypsum – a recycled-product with the same properties as natural gypsum.

Production line
The different gypsum types are expertly blended to produce our high-quality plasterboard.

Construction
Plasterboard offcuts are inevitable during construction – but fortunately it's a fully recyclable waste stream.

Waste handling
Board offcuts are placed in dedicated receptacles and collected by a specialist recycling contractor.

Recycling station
The gypsum core of the waste plasterboard is separated from its paper facings – both are recycled.

Fire and acoustic principles

Fire in a construction can be inhibited or exacerbated by a number of factors relating to both the intrinsic properties of materials, how they react to one another and how, in a construction element, they behave together.

Reaction to fire

'Reaction to fire' measures the contribution of a material to fire growth. Materials with good reaction to fire properties – those which contribute least to fire – will achieve the highest ratings in the European Reaction to Fire classification (Euroclasses). Non-combustible products and products with a high resistance to fire – such as Knauf Brio and Knauf Plasterboard – will achieve an A rating; more combustible materials achieve lower levels, classified from B to F.

Other factors relating to 'reaction to fire'

- Smoke release: the propensity of the material to release smoke.
- Burning droplets: the potential for the material to release burning droplets or particles.
- Flashover: the propensity for a material to reach 'flashover', where combustion gases may exceed a certain temperature level and there is a rapid increase in smoke and heat release.

Surface spread of flame

Surface spread of flame can be assessed in vertical or horizontal planes and measures the rate of flame spread across a material's surface beyond the area of ignition. The surface spread of flame rate depends on the heat supplied externally and/or by the flame of the burning material ahead of the burning zone, and on the ease of ignition. As the heat release rate from a material increases, the surface flame spread over the surface of a material increases, as does the generation of combustion products.

Materials such as Knauf Plasterboard with good ratings for reaction to fire and surface spread of flame do not of themselves ensure good fire safety, unless they are incorporated correctly within buildings to achieve high levels of fire resistance; see below.

Fire resistance

Fire resistance measures the behaviour of an element of construction (and holes or gaps passing through it) when subjected to defined heating and pressure conditions which may be encountered in a fully developed fire. It is a property of composite constructions, or of structures rather than individual materials. The 'integrity' ratings for this property are measured in minutes of resistance before which the construction becomes structurally unsound and liable to collapse.The 'fire ratings' of a Knauf System, such as Knauf Performer, refer to Fire Resistance.

Other important factors

Thermal transmission: the fire resistance of a construction is of little help to the occupant of a building if the heat passing through that construction makes escape impossible. Thermal transmission generated by fire should be minimised; this is referred to in the fire tests as the 'Insulation' rating.

Compartmentation: The division of a building into discrete fire-tight zones can limit fire damage by containing a fire within or close to the zone of origin.

Sound Insulation (sound reduction), prevents sound being transmitted from one part of a building to another, for example by erecting a partition or wall.

Improving sound insulation is the main way in which the sound transmission between dwellings can be reduced. The airtightness of a construction is also critical.

Types of sound

Airborne sound: Typical airborne sources may include the human voice, musical instruments, home entertainment systems and noisy dogs. The ability of an element of construction to resist the passage of airborne sound is largely determined by three factors:

- The sound absorbency of any cavities in the construction
- The structural isolation between the two outer surfaces
- The mass and dampening behaviour of the elements of construction.

Impact sound: Typical impact sound sources include slamming doors, stamping on the floor and vibrating washing machines. With impact sound, a relatively small impact can result in a loud sound being transmitted through the structure, often over long distances.

Impact sound can be controlled by:
- Providing a resilient layer at the point of impact – such as a resilient isolation strip under the floorboards
- Structural isolation – such as adding a resilient layer between the floor deck and the floor structure.

Flanking sound: Flanking sound transmission usually refers to sound that travels through 'flanking' structural elements, such as the external wall that flanks a separating element between two dwellings.

Flanking sound can also include sound that travels along unintended airpaths, such as unsealed gaps in the structure and around service penetrations. Flanking sound can be controlled by:

- Sealing open airpaths
- Forming a lining backed by a resilient layer to prevent sound energy entering the flanking element
- Designing out 'weak areas' in adjoining and abutting elements.

Separating walls that meet the specifications in the Building Regulations can fail to meet the sound performance standard if the flanking junctions are poorly detailed. It is important to follow the guidance on the flanking details and not just the construction of the wall itself.

Noise and Part E

Unwanted noise has been identified as a key contributor to the degradation of quality of life in residential, social and working environments.

Many aspects of modern life contribute towards increasing levels of potential nuisance noise including the construction of housing at high densities, increasing use of home entertainment equipment throughout the home, and the 24-hour society.

So, protection against noise contributes towards the 'quality of life' within dwellings, and healthy, productive and attractive environments in offices, hospitals, schools and other non-domestic buildings.

In dwellings, Approved Document E of the Building Regulations is concerned with protecting residents from nuisance noise in attached dwellings and within the dwelling, and requires that separating walls and floors are built to provide specific levels of protection.

Schools, hospitals, libraries and many other types of buildings have very specific acoustic requirements (some of which are enshrined within HTM documentation [health] and BB93 [schools]) and specifications will often determine the acceptable noise levels within rooms by their purpose.

Optimising design and performance

Drylining systems offer the building designer a range of options to create internal spaces which fulfil the demands of building functionality and those of acoustic criteria.

With the capacity to achieve up to 76dB (Rw) sound reduction, systems such as Knauf Isolator (page 60) and Silent Spacesaver (page 48) may enable a school architect to configure 'noisy' and 'quiet' areas closer to one another – optimising design and maintaining acoustic performance.

Achieving compliance

There are two ways to comply with Part E: first, by pre-completion testing which requires that 10% of built structures are tested to ensure acoustic performance is met; second by using a 'Robust Detail' – effectively, a pre-accredited form of construction that, if adhered to, guarantees performance levels compliant with Part E.

How Knauf Apertura systems absorb sound (reverberant) energy

Knauf Apertura perforated and patterned plasterboards are designed to absorb sound (reverberant) energy. The addition of mineral wool will further enhance sound absorption capacity.

The holes in Knauf Apertura allow noise to pass through but its path is disrupted, taking energy out on its return. This reduces echoes in a room. The clarity of speech or music can be tuned by the choice of pattern, using insulation and void depth.

Standard soffit with plasterboard

Soffit with Knauf Apertura ceiling
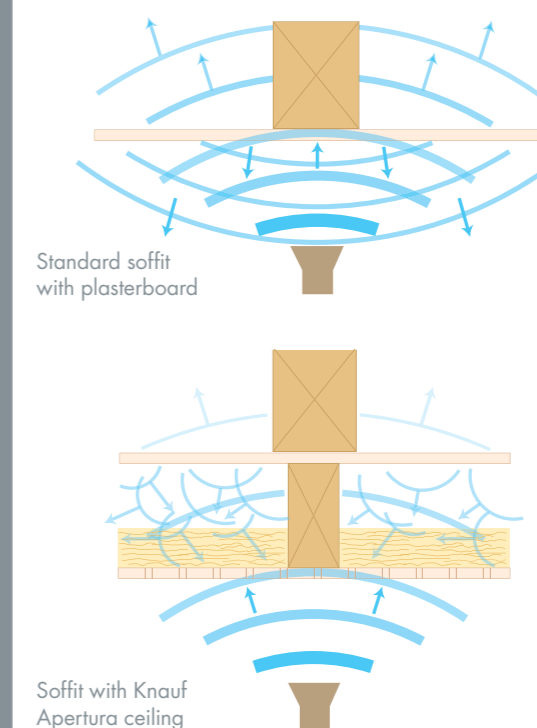
Regulations and Legislation

The following pages, 288–307, explore the key legislation and guidance relevant to the design and installation of drylining systems in residential and non-residential buildings, for new build, refurbishment or extensions.

In the main, the legislative requirements are set out in the Building Regulations Approved Documents (and the equivalents for Scotland, Northern Ireland and Ireland).*

The overriding driver for thermal regulation is European legislation in the form of the Energy Performance of Buildings Directive (EPDB). Other documents, such as Building Bulletins (education) or technical design manuals (health) provide methodologies for achieving the statutory requirements and therefore provide ways of meeting the Regulations.

For more information, call Knauf Technical Services on 01795 416259.

* As of 2011, the Welsh Assembly has powers to set Building Regulations for Wales. The Approved Documents current on 31 December 2011 will continue to apply to Wales, but the Welsh Assembly will review their content and specifications. In particular, it is undertaking a review of schedule 1 part L to the Building Regulations 2010.

The information on pages 287–307 applies only to the Building Regulations as published by the Department of Communities and Local Government (DCLG).

2013 sees several sets of changes to the Building Regulations in England. The first set, coming into force on 6 April 2013, is intended to reduce the burden of regulation on the construction industry, and includes changes to Parts B, K, M and P. A further change takes place on 1 July 2013 when the European Construction Products Regulations 2011 come into force and the guidance to Regulation 7 will be aligned with them.

Always consult the most recent version of the Building Regulations and related documents.

Sector-specific changes to guidance and supporting documents:

Education: "Acoustic performance standards for the priority schools building programme", published in September 2012, should be used in place of Section 1 of the Building Bulletin 93 as the acoustic performance standards for the Priority Schools.

Building Programme (PSBP). For the purposes of Building Regulations submissions, any variations from the existing BB93 should be taken as Alternative Performance Standards approved by the Education Funding Agency for this programme.

Healthcare: Health Technical Memorandum 08-01 has been superseded by Acoustics: Technical design manual.

Generate specifications at **www.knauf.co.uk**

England and Wales
Approved Documents:
www.planningportal.gov.uk/buildingregulations/
Code for Sustainable Homes (Technical Guidance, 2010):
www.planningportal.gov.uk/buildingregulations/greenerbuildings/sustainablehomes/technicalguide

Wales (after 1 January 2012)
http://wales.gov.uk/topics/planning/buildingregs/?lang=en

Ireland
Technical Guidance Documents (TGDs):
www.environ.ie/en/TGD

Northern Ireland
Technical Standards (NI):
www.buildingcontrol-ni.com

Scotland
Technical Handbooks:
www.scotland.gov.uk/Topics/Built-Environment

Residential

Acoustic

Approved Document E

Fire

Approved Document B (Dwellings)

Thermal

Approved Document L1A

Approved Document L1B

Code for Sustainable Homes

Commercial

Thermal

Approved Document L2A

Approved Document L2B

Fire

Approved Document B

Education

Acoustic

Building Bulletin 93 (BB93) 'Acoustic Design of Schools'

Fire

Approved Document B Volume 2 (Buildings other than Dwellinghouses)

Building Bulletin 100 (BB100) 'Design for Fire Safety in Schools'

Healthcare

Acoustic

Technical Design Manual

Fire

Approved Document B Volume 2 (Buildings other than Dwellinghouses)

Health and Technical Memorandum 05 02 'Firecode fire safety in the NHS'

Generate specifications at **www.knauf.co.uk**

Residential: Thermal

Knauf wall lining and dry lining systems can incorporate wide ranges of insulation types and thicknesses to minimise heat loss from buildings and thermal transmission from warm to cold areas. Knauf systems will help:

- **Minimise heat loss**
- **Achieve high levels of thermal efficiency**
- **Maximise internal space**
- **Achieve Part L and Code for Sustainable Homes compliance**

Approved Document L1A

The Energy Performance of Buildings Directive (EPDB) requires a calculation method that adopts a 'whole building' approach to energy performance. The 2009 edition of the Standard Assessment Procedure (SAP 2009) applies from October 2010 for compliance with building regulations in England & Wales (Part L) and in Scotland (Section 6). Similar provisions will be made in Northern Ireland at a later date. The Reduced Data SAP (RdSAP) applies to all EPCs produced from 1 April 2012 in England, Wales and Northern Ireland, and from 1 October 2012 in Scotland. The revised EPCs support the Green Deal, introduced in England, Wales and Scotland in October 2012. The SAP worksheet and specification can be downloaded from www.bre.co.uk/sap2009

In addition, there is greater emphasis on ensuring that the building construction meets the standards assumed at the design stage and that the heating and hot water systems are correctly commissioned.

Absolute criteria

The SAP calculates the dwelling's energy performance in terms of carbon dioxide (CO_2) emissions per m² per year for heating, hot water, ventilation and lighting.

The SAP calculation tool allows the designer a high degree of flexibility in deciding how to achieve the required energy target. However, the Approved Document does set certain limits. These include:

- Limiting U-values
- A limit of 10 m³/(h.m²) @ 50 Pa for air permeability
- The use of an appliance with an efficiency not less than that recommended for its type in the Domestic Heating Compliance Guide.

How to comply

Calculating CO_2 emissions for proposed building: The predicted rate of carbon dioxide emissions from the dwelling, the Dwelling Emission Rate (DER), should not be greater than the Target Emission Rate (TER).

How to comply: Using the SAP, the CO_2 emission rate is calculated for a notional dwelling of the same size and shape as the proposed dwelling using a fixed set of criteria for the fabric heat loss, building services and fuel choice.

The resulting 'notional' CO_2 emission rate is equivalent to a gas heated dwelling insulated to Part L standards for 2002.

The TER is arrived at by reducing the notional CO_2 emission rate by 20% and making an allowance for any change in the main heating fuel, using the 'fuel factor' (Part L1A Table 1, page 16). The SAP calculation is repeated, but this time inserting the proposed U-values, building services, fuels and low or zero carbon energy sources for the proposed building. This produces the DER. If the DER of the proposed building is less than the TER, the first criteria has been achieved.

Other criteria

Design limits: The designer and constructor must show that the thermal performance of the building fabric and the heating, hot water and lighting systems are within the design limits in the Approved Document.

Limiting solar gains in summer: The designer and constructor must show that provision has been made to prevent high internal temperatures due to excessive solar gains.

Quality of construction and commissioning of building services: The designer and constructor must demonstrate that the quality of construction has been achieved by adopting Accredited Details and undertaking an air pressure test to confirm the specified design air permeability has been achieved. Provide a notice declaring that the building services have been inspected, tested and commissioned and are in accordance with the proposed building design.

Providing information: Provide operating and maintenance instructions to enable the building and its services to be operated in an energy efficient manner.

Approved Document L1B

The Approved Document for existing dwellings keeps an elemental method of demonstrating compliance, although in some cases there is an option to use the SAP calculation method. This will show that the overall energy performance of the whole extended or altered building is no worse than it would be if the elemental method were used.

There is also more emphasis than before on ensuring that the construction meets the thermal standards established at the design stage and that the heating and hot water systems are correctly commissioned. The guidance is set out in relation to three main classes of building work:

- Extensions to existing dwellings, including conservatories
- Dwellings created as a result of a material change of use
- Thermal upgrading as part of material alterations.

For each of these classes of work, the Approved Document gives relevant energy efficiency standards for:

- New thermal elements
- Replacement thermal elements
- Renovated thermal elements
- Retained thermal elements
- Controlled fittings (glazed elements)
- Controlled services.

Northern Ireland

Technical Standard F1: This document is designed to mirror the requirements of England and Wales, with minor changes to reflect the predominant fuel types used.

Scotland

Domestic Technical Handbook Section 6: Energy: The four criteria set out below describe the process the designer and builder must go through to show compliance. The SAP is used to calculate a Target Emission Rate (TER) for a 'notional dwelling' of exactly the same size and shape as the proposed dwelling and assuming a fixed package of measures.

1 Calculating the CO_2 emissions for the proposed building: The calculated rate of CO_2 emissions from the dwelling (the Dwelling Emission Rate (DER)) should not be greater than the TER.

2 Design 'back stops': Show that the thermal performance of the building fabric and the heating, hot water and lighting systems are within the design limits inthe Technical Handbook.

3 Written information: Provide operating and maintenance instructions to enable the building and its services to be operated in an energy efficient manner.

4 Energy Performance Certificate (EPC): Every new dwelling should have an EPC. The Technical Handbook lists all the information that should be included on the Certificate. It should be permanently affixed to the dwelling, in a prominent place.

Ireland

Technical Guidance Document L – Conservation of fuel and energy – dwellings: Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

🏠 Residential: Thermal

The Code for Sustainable Homes

The Code for Sustainable Homes has been introduced to drive a step-change in sustainable home building practice. It is a standard for key elements of design and construction which affect the sustainability of a new home.

In England and Wales, it will become the single standard for sustainable homes, used by home designers and builders as a guide to development, and by home buyers to assist in their choice of home.

It forms the basis for future developments of the Building Regulations in relation to carbon emissions from energy use in homes, therefore offering greater regulatory certainty to developers. In this era of environmental awareness among consumers and increasing demand for a more sustainable product, it will offer a tool for developers to differentiate themselves.

The Code for Sustainable Homes will progressively introduce a star rating system from 2006–16. More stars denote better sustainability. Designers will be required to achieve increasingly stringent criteria to reach each level of the Code's requirements. The points system integrates energy and water usage as well as other key sustainability criteria.

Green Guide ratings

The BRE Green Guide to Specification publishes (online) a wide range of construction specifications along with the relative environmental performance of these specs and the materials used within them.

The data is set out as an A+ to E ranking system, where A+ represents the best environmental performance/least environmental impact, and E the worst environmental performance/most environmental impact.

In the 'domestic/internal wall/framed partition' category, all constructions using Knauf plasterboard have an 'A+' or 'A' rating.

Full details can be found at: www.thegreenguide. org.uk. Knauf offer comprehensive guidance on the design of systems to achieve required Green Guide ratings.

Achieving higher Code ratings with Knauf

Knauf offer ranges of systems able to provide high levels of acoustic and thermal insulation. These contribute towards achieving the Code's reduced target emission rates and to its 'quality of life' requirements. Products such as our space-saving and thermally efficient laminates and Brio dry floor screed – thermally transparent to maximise under floor heating efficiency – can both maximise internal space creation requirements (habitability) and help meet specific Code levels for thermal efficiency.

Achieving a sustainability rating: target standards†

Code level	Energy	Water
	Minimum % reduction in dwelling emission rate over target emission rate	Maximum potable water consumption in litres per day
1 ( )	0 (Compliance with Part L 2010 only is required)	120
2 ( )	0 (Compliance with Part L 2010 only is required)	120
3 ( )	0 (Compliance with Part L 2010 only is required)	105
4 ( )	25	105
5 ( )	100	80
6 ( )	Net Zero CO_2 emisions	80

† This table is derived from Tables 1.2 and 1.3 (page 12) of The Code for Sustainable Homes: Technical Guide (November 2010 edition).

Generate specifications at **www.knauf.co.uk**

Residential: Acoustic

Our range of residential partition systems are designed to meet the acoustic requirements of the regulations while being robust and easy and fast to install, using the minimum number of components.

Use Knauf Isolator partitions to create separating walls using dry construction techniques, see page 60.

Use Knauf Easybuild to economically construct internal residential partitions that meet all the relevant performance requirements, see page 42.

Approved Document E

Part E Regulations focus on four main areas:

E1: Protection against sound from other parts of the building and adjoining buildings

E2: Protection against sound within a dwelling house etc.,including separating and internal walls and floors

E3: Reverberation in the common internal parts of buildings containing flats or rooms for residential purposes

E4: Acoustic conditions in schools.

There are two routes to compliance (in England and Wales) as set out below.

Performance standards for separating walls, floors and stairs with separating function (England and Wales)†

	Airborne sound insulation $D_{nT,w} + C_{tr}$ dB (min. values)	Impact sound insulation $L'_{nT,w}$ dB (max. values)
Purpose built dwelling houses and flats		
Walls	45*	–
Separating floors/stairs	45	62
Dwelling houses and flats formed by material change of use		
Walls	43	–
Separating floors/stairs	43	65

* The values for 'Rooms for residential purposes' are identical to those above except for this figure, which is 43. Please note that the above England and Wales figures include Ctr, hence the difference in values compared with Scotland and Northern Ireland

† Table derived from Part E 2003 (with 2010 amendments), Table 0.1a, page 12.

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Robust details

Robust Details are an alternative to constructions that require pre-completion sound testing in England and Wales.

- Pre-approved details achieving sound insulation standards higher than those required by Part E
- For new build houses and new build apartments only.
- No pre-completion testing required.

The main benefit of using Robust Details is that there is no need to carry out pre-completion sound testing. This eliminates the risk and uncertainty of remedial action being required on completed separating walls and floors, which may lead to potential delays in completing the property.

The Robust Details are designed to achieve higher sound insulation standards than the minimum requirements in Part E. Each approved Robust Detail contains a checklist which must be completed on site. This is a quality control check to confirm that all the critical elements that affect sound performance have been built correctly.

Robust Details are administered by Robust Details Ltd. Every dwelling built using Robust Details needs to be registered with Robust Details Ltd and a plot registration fee paid. Further information on the Robust Details scheme is available on the Robust Details website at: www.robustdetails.com

All floating floor and ceiling treatments for separating floors, where stipulated, are to have a proven level of performance from laboratory tests before they can be used in a Robust Detail.

Pre-completion testing

Part E calls for sample pre-completion testing of separating walls and floors prior to handover. The testing is required to ensure that the level of performance specified in Part E is being achieved.

- For all new build, refurbishment, remedial and extension work in buildings with rooms for residential purposes
- Minimum of 1 in 10 dwellings of same type to be tested
- Details designed to meet or exceed requirements of Part E.

Pre-completion sound insulation tests should be carried out by independently accredited organisations.

A minimum of one in every ten dwellings of the same dwelling type are required to be tested prior to completion. Depending on the mix of dwelling types in a development, testing will usually be required on 10–30% of the units.

Tests should be conducted in completed but unfurnished rooms or available spaces in the case of properties sold before fitting out.

Existing buildings: Where dwellings are created by the material change of use of an existing dwelling, the only way to comply with the requirements of Part E is to carry out pre-completion testing to prove the acoustic performance of the acoustic separating building elements. For this type of work slightly lower standards of performance are required than for new build.

Northern Ireland

Technical Standards G and G1: There are 3 routes to compliance:

1. Constructions specified in Technical Standards G and G1
2. Performance testing to show compliance with standards
3. Repeat constructions: duplicate constructions that have been shown to comply elsewhere.

Performance standards†

	Airborne sound insulation $D_{nT,w} + C_{tr}$ dB*		Impact sound insulation $L'_{nT,w}$ dB*	
	mean values	individual value	mean values	individual value
Separating walls	53	49	–	–
Separating floors	52	48	61	65

* As defined in BS EN ISO 717-1: 1997 and BS EN 717-2:1997
† Table derived from Technical Standard G, 1990

Scotland

Technical Handbook Section 5: There are 2 routes to compliance:

1. Constructions specified in Technical Handbook Section 5
2. Performance testing to show compliance with standards.

Performance standards†

	Airborne sound insulation $D_{nT,w} + C_{tr}$ dB*		Impact sound insulation $L'_{nT,w}$ dB*	
	mean values	individual value	mean values	individual value
Separating walls	53	49	–	–
Separating floors	52	48	61	65

* As defined in BS EN ISO 717-1: 1997 and BS EN 717-2:1997
† Table derived from Technical Handbook – Domestic, 2011, section 5

Ireland

Technical Guidance Document E & Sound: Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs under the 'Similar constructions' heading is not prohibited, provided that the approach meets the requirements of the Regulations.

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🏠 Residential: Fire

Building systems incorporating plasterboard can help meet the requirements of Part B of the Building Regulations by providing surfaces that minimise fire spread, by the creation of compartments that limit the progress of smoke and flames, and by helping to maintain the structural integrity of the structure as a whole.

Knauf systems offer:
- **Fire resistance up to 120 minutes**
- **Wide range of compartmentation options**
- **Peace of mind with comprehensive full-system testing**

Approved Document B
The various parts of the Approved Document set out the following objectives:

B1 – To ensure the correct design, construction and provision of means of escape for persons in the event of a fire

B2 – To ensure, through appropriate construction and workmanship, that firespread over the internal linings of buildings is inhibited

B3 – To ensure the stability of buildings in the event of fire by creating separated compartments within buildings to inhibit internal spread of fire. To create sufficient and effective separation between adjoining buildings. To inhibit unseen spread of smoke and fire via concealed spaces within buildings.

Part B2 – Internal fire spread (linings): To inhibit the spread of fire within the building, the internal linings shall:

a) Adequately resist the spread of flame over their surfaces

b) Have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

The above can be achieved by selection of materials, such as Knauf plasterboard, that have low rates of surface spread of flame. It is also beneficial for material to have a low rate of heat release, minimising the material's contribution to fire growth.

These qualities are particularly important in circulation or communal spaces, where it will often be the linings that must minimise the spread of flame to give the occupants more escape time.

Part B3 – Internal fire spread (structure)
i) The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.

ii) A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings. For the purposes of this sub-paragraph, a house in a terrace and a semi-detached house are each to be treated as a separate building.

iii) To inhibit the spread of fire within the building, through either sub-division with fire-resisting construction, or installation of suitable automatic fire suppression systems

iv) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.

Areas in which Knauf products may be used to inhibit spread of fire

The ultimate objective of the Approved Document, as with all fire considerations, is first to protect the lives of occupants, emergency workers, and those passing by or engaged in activities near to the building in question and, second, to try to minimise the structural damage.

The principal means of achieving the fire resistance of a construction element is to:

a) Maintain the element's loadbearing capacity (resist collapse)

b) Maintain the integrity of the elements (resist fire penetration)

c) Provide insulation from high temperature (resist heat transfer)

Knauf products provide an efficient solution for many construction elements.

Compartmentation in dwellings
Sub-dividing dwellings into separate fire-resisting compartments is critical to the ability of the structure as a whole to prevent rapid fire spread and minimise the size of fires. Again, the overriding aim is to save lives and minimise destruction.

Knauf plasterboard systems are an effective method of achieving compartmentation in dwellings.

The Building Regulations include provisions which state that:

Provision of compartmentation
i) Every wall separating semi-detached houses, or houses in terraces, should be constructed as a compartment wall, and the houses should be considered as separate buildings

ii) If a domestic garage is attached to (or forms an integral part of) a house, the garage should be separated from the rest of the house by providing 30 minutes fire resistance to any wall and floor between garage and house.

Construction of compartmentation: Every compartment wall and compartment floor should:

i) Form a complete barrier to fire between the compartments they separate

ii) Have the appropriate fire resistance as indicated in AD B Appendix A, Tables A1 and A2, pages 59 and 60.

Minimum periods of fire resistance for dwellinghouses†

Minimum periods (minutes) for elements of structure in a:		
Basement storey including floor over[1]	Ground or upper storey height of top floor above ground Not more than 5m	Ground or upper storey height of top floor above ground More than 5m
30[2]	30[2]	60[3]

1 The floor over a basement (or if there is more than one basement, the floor over the topmost basement) should meet the provisions for the ground and upper storeys if that period is higher.
2 Increased to a minimum of 60 minutes for compartment walls separating buildings.
3 30 minutes in the case of three storey dwellinghouses, increased to 60 minutes minimum for compartment walls separating buildings.
† Table derived from Part B, 2006, Appendix A, Table A2, page 61
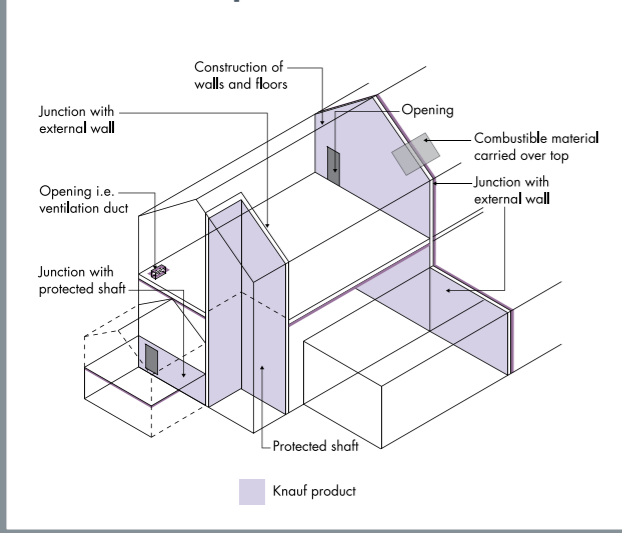
Northern Ireland
Technical Booklet E Fire Safety: This document covers both dwellings and non-dwellings.

Sections 2 and 3 deal with internal fire spread to linings and structure, respectively.

Scotland
Technical Handbook (Domestic), Section 2: Fire This Handbook covers new build work and work to existing dwellings.

Fire Section 2.3: Structural protection
Fire Section 2.4: Cavities
Fire Section 2.5: Internal linings

Ireland
Technical Guidance Document B – Fire safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. Sections B2 and B3 deal with 'internal fire spread (linings)' and 'internal fire spread (structure)', respectively.

Commercial: Thermal

We offer a range of fast, easy to design and easy to install systems to provide increased thermal efficiency for all non-residential buildings.

Knauf systems offer:
- **Simple to achieve Part L2A and B compliance**
- **Brio dry floor screed to maximise underfloor heating efficiency**
- **Simple, efficient construction processes to maximise thermal integrity**

Approved Document L2A (new buildings)

The Approved Document covers all types of non-domestic building. The Energy Performance of Buildings Directive (EPBD) requires a calculation method that adopts a whole building approach to energy performance. The Simplified Building Energy Model (SBEM) has been developed for Approved Document L2A that meets this requirement. The SBEM programme and user guide can be downloaded from www.ncm.bre.co.uk.

In addition, there is greater emphasis on ensuring that the building construction meets the standards assumed at the design stage and that the building services are correctly commissioned.

The SBEM

The SBEM is a computer programme that provides an analysis of a building's energy consumption. It is based on a set of CEN standards and has been developed in order to comply with the EPBD. The first approved version of SBEM was issued in December 2005. The latest version can be downloaded for free from www.ncm.bre.co.uk.

How to comply: Points 1–3 below outline the process the designer and builder must go through to show compliance. The SBEM calculates the building's energy performance in terms of carbon dioxide (CO_2) emissions per m² per year for heating, cooling, hot water, ventilation systems and lighting.

1 Calculate the Target Emission Rate (TER): Approved software, such as the SBEM, will automatically generate the CO_2 emission rate of the notional building* from the information input.

The TER is arrived at by applying an improvement factor and a LZC (low or zero carbon energy source) benchmark factor to the CO_2 emission rate for the notional building.

The SBEM or other approved software will automatically generate the TER using the improvement factor and LZC benchmark.

2 Calculate the Building CO_2 Emission Rate (BER) for the proposed building: This is calculated using the same software programme as for the notional building, but using the actual U-values, air permeability, building services, fuels and any LZC energy sources to be used in the proposed building. A fuel factor is applied if mains gas is not used as the main fuel in the proposed building.

The SBEM automatically calculates the BER and takes account of the fuel factor, where relevant. The BER must be no worse that the calculated TER.

Northern Ireland
Technical Standard F2: Section 2 covers the regulations for new buildings other than dwellings. Section 3 covers the regulations for existing buildings other than dwellings.

Scotland
Non-domestic Technical Handbook Section 6: Energy: These Handbooks cover new build work and work to existing dwellings.

Ireland
Technical Guidance Document L – Conservation of fuel and energy: The Technical Documents, commonly known as TGDs give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

3 Additional compliance criteria: As well as ensuring the CO_2 emission rate for the building is within target, the AD lists four additional criteria that must be met to achieve compliance:

Design limits: Show that the thermal performance of the building fabric and building services are within the design limits set out in the Approved Document.

Limiting solar gains in summer: Where buildings are not provided with air conditioning, show that suitable measures have been taken to control excessive solar gains.

* The notional building must be the same size and shape as the actual building as described in AD B, section 1,22

Quality of construction, inspection and commissioning of building services: All buildings must undergo an air pressure test to confirm the specified design air permeability of the building has been achieved.

Provide a notice declaring that the building services have been inspected, tested and commissioned and are in accordance with the proposed building design.

Providing information: Provide a building log book to enable the building owner to operate and maintain the building.

Approved Document L2B (existing buildings)
The Approved Document retains an elemental method of demonstrating compliance, although in some cases there is an option to use the SBEM calculation method to show that the overall energy performance of the whole new or altered building is no worse than it would be if the elemental method were used. In addition, for extensions, it is possible to use a weighted U-value calculation to trade-off between different elements of the construction.

The guidance is set out in relation to three classes of building work:

- Extensions to existing buildings, including conservatories
- Buildings created as a result of a material change of use
- Thermal upgrading as part of material alterations.

For each of these classes of work the Approved Document gives relevant energy efficiency standards for:

- New thermal elements
- Replacement thermal elements
- Renovated thermal elements
- Retained thermal elements
- Controlled fittings (glazed elements)
- Controlled services.

⊞ Commercial: Fire

Designing-in the specific fire-resisting characteristics of products such as Knauf Fire Panel and systems such as Knauf Shaftwall, ensure the requirements of Part B are met and defined levels of fire resistance for differing zones of usage are achieved.

Knauf systems offer:
- **Specifiable fire-resisting periods from 30 to 120 minutes**
- **Fire-rated solutions for partitions, linings, ceilings, floors, shafts and encasements**

Approved Document B
Among the provisions in the Approved Document are the following:

B1 – To ensure the correct design, construction and provision of means of alarm and escape for persons in the event of a fire

B2 – To ensure, through appropriate construction and workmanship, that firespread over the internal linings of buildings is inhibited

B3 – To ensure the stability of buildings in the event of fire by creating separated compartments within buildings to inhibit internal spread of fire. To create sufficient and effective separation between adjoining buildings. To inhibit unseen spread of smoke and fire via concealed spaces within buildings.

Other considerations
Below are some key elements relating specifically to non-residential construction:

Concealed spaces (cavities): Concealed spaces or cavities in the construction of a building provide a route for smoke and flame spread. This is particularly so in the case of voids above other spaces in a building e.g. above a suspended ceiling or in a roof space. As any spread is concealed it presents a greater weakness in the fabric of the building. Provisions are made to restrict this by interrupting cavities which could form a pathway around a barrier to fire, sub-dividing extensive cavities, and by closing the edges of openings.

Protected shafts: Openings in floors for stairways, lifts, escalators and pipes and ducts should be enclosed in a protected shaft, which has the same period of fire resistance (integrity, insulation and, where applicable, load-bearing capacity) as the compartment floor.

Protected shafts for stairways and lifts should be provided with protected lobbies, except where they are accessed from the street.

Knauf Shaftwall and Firefighting Shaftwall provide up to 120 minutes fire resistance and can be constructed totally from one side, making them ideal for lift and service shaft constructions.

Protection of openings and penetrations: For fire separating elements to be effective, every joint and opening for services must be adequately sealed so that the fire resistance of the element is maintained.

Ventilation ductwork: Ventilation ductwork should comply with the requirements of Section 10 of Approved Document B.

External walls: The requirement is for sufficient fire-resistance to prevent fire spread across the relevant boundary. If an external wall is more than 1 metre from the relevant boundary, the wall only needs fire resistance from inside.

Minimum periods of fire resistance[†]

Purpose group of building		Minimum periods (minutes) for elements of structure in a:					
		Basement storey[1] including floor over depth (m) of a lowest basement		Ground or upper storey height (m) of top floor above ground in a building or separated part of a building			
		more than 10	not more than 10	not more than 5	not more than 18	not more than 30	more than 30
Office:	Not sprinklered	90	60	30[2]	60	90	*
	Sprinklered[4]	60	60	30[2]	30[2]	60	120[3]
Assembly and recreation:	Not sprinklered	90	60	60	60	90	*
	Sprinklered[4]	60	60	30[2]	60	60	120[3]
Storage and other non-residential, any building or part not described elsewhere	Not sprinklered	120	90	60	90	120	*
	Sprinklered[4]	90	60	30[2]	60	90	120[3]
Car park for light vehicles:	Open-sided car park*	n/a	n/a	15[2]	15[2,5]	15[2,5]	60
	Any other car park	90	60	30[2]	60	90	120[3]

1 The floor over a basement (or if there is more than 1 basement, the floor over the topmost basement) should meet the provisions for the ground and upper storeys if that period is higher.
2 Increased to a minimum of 60 minutes for compartment walls separating buildings.
3 Reduced to 90 minutes for elements not forming part of the structural frame.
4 'Sprinklered' means that the building is fitted throughout with an automatic sprinkler system meeting the relevant recommendations of BS 5306 Fire extinguishing installations and equipment on premises. Part 2 Specification for sprinkler systems; i.e. is the relevant occupancy rating together with the additional requirements for life safety.
5 For the purposes of meeting the Building Regulations, the following types of steel elements are deemed to have satisfied the minimum period of fire resistance of 15 minutes when tested to the European test method:
  i Beams supporting concrete floors maximum section factor (A/V)+230m-1
  ii Free standing columns, maximum section factor (A/V)+180m-1 operating under full design load
  iii Wind bracing and struts, maximum section factor (A/V)+210m-1 operating under full design load
  Guidance is also available in BS 5959 Structural use of steel in building. Part 8 Code of practice for fire resistant design.
* Not permitted
† The above table is derived from Part B vol 2, Table A2, page 124

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Northern Ireland
Technical Standard F2: Section 2 covers the regulations for new buildings other than dwellings. Section 3 covers the regulations for existing buildings other than dwellings.

Scotland
Non-domestic Technical Handbook Section 6: Energy: These Handbooks cover new build work and work to existing dwellings.

Ireland
Technical Guidance Document L – Conservation of fuel and energy: The Technical Documents, commonly known as TGDs give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

Education: Acoustic

Educational establishments have wide-ranging acoustic requirements, often with large differentials between adjacent rooms. Knauf systems have the design and performance flexibility to accommodate these differing requirements without compromise on installation or layout efficiency.

Knauf systems offer acoustic-specific products and systems for sound reduction and reverberation control

Relevant regulations and guidelines

Section 8 of Part E of the Building Regulations covers acoustic conditions in school buildings.

Requirement E4 from Part E of the Building Regulations states that: "Each room or other space in a school building shall be designed and constructed in such a way that it has the acoustic conditions and the insulation against disturbance by noise appropriate to its intended use".

The usual route to compliance is by meeting the performance standards set out in Building Bulletin 93: Acoustic design of schools – a design guide (also referred to as BB93).

There is a consensus that low ambient noise levels are required in the teaching environment, particularly in view of the 'Special Educational Needs and Disability Act' 1991 (updated in 2001) (now part of DDA) which requires the inclusion of children with special needs within mainstream schools.

Many school rooms provide inadequate acoustics for their intended function because of their age, poor design and planning, inefficient sound insulation, or multi-purpose functionality.

"Acoustic performance standards for the priority schools building programme", published in September 2012, should be used in place of Section 1 of the Building Bulletin 93 as the acoustic performance standards for the Priority Schools Building Programme (PSBP). For the purposes of Building Regulations submissions, any variations from the existing BB93 should be taken as Alternative Performance Standards approved by the Education Funding Agency for this programme.

The normal way of satisfying Requirement E4 of the Building Regulations is to meet the performance standards given in BB93, Table 1.2 and the latest Acoustic performance standards for the priority schools building programme (APSPS).

Airborne sound insulation between rooms[1,2]

Minimum $D_{nT\,(Tmf,max,)}w$	Activity noise in source room			
	Low	Average	High	Very High
Noise tolerance in receiving room (see table opposite)				
High	30	35	45	55
Medium	35	40	50	55
Low	40	45	55	55
Very Low	45	50	55	60

1 Each value in the table is the minimum required to comply with the Building Regulations.
2 Where values greater than 55dB $D_{nT\,(Tmf,max,)}w$ are required, special high performance constructions may be necessary. Knauf Technical Services can offer advice regarding these types of construction.
Table derived from BB93 Table 1.2 (page 10).

Further information:

Our dedicated Education brochure is available free, upon request. Please telephone 08700 613700 to request a copy, or download from our website: www.knauf.co.uk

Northern Ireland
Technical Standards G and G1: G1 covers the reduction of sound transmission and reverberation in new buildings. G 'Sound conversions' covers the reduction of sound transmission and reverberation in conversions.

Scotland
Technical Handbook Section 5, non-domestic: This Handbook covers new build work and work to existing buildings other than dwellings.

Ireland
Technical Guidance Document E – Sound: The Technical Documents, commonly known as TGDs give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

Performance standards for indoor ambient noise levels[‡]

Room type	Room classification for purpose of airborne sound insulation		Upper limit for indoor ambient noise
	Activity Noise (Source Room)	Noise Tolerance (Receiving Room)	L_{Aeq} 30 min (dB)
Nursery school playrooms	High	Low	35*
Nursey school quiet rooms	Low	Low	35*
Primary school classrooms and general areas	Average	Low	35*
Secondary school classrooms and general areas	Average	Low	35*
Open plan teaching areas[1]	Average	Medium	40*
Open plan resource areas[1]	Average	Medium	40*
Music classroom	Very high	Low	35*
Small practice/group room	Very high	Low	35*
Ensemble room	Very high	Very low	30*
Performance/recital room	Very high	Very low	30*
Recording studio[2]	Very high	Very low	30*
Control room (for recording)	High	Low	35*
Small lecture room (fewer than 50 people)	Average	Low	35*
Large lecture room (more than 50 people)	Average	Very low	30*
Classrooms for use by hearing impaired pupils	Average	Very low	30*
Study room (individual study, remedial work, etc.)	Low	Low	35*
Libraries: Quiet study area	Low	Low	35*
Resource areas	Average	Medium	40
Science laboratories	Average	Medium	40
Drama studios	High	Very low	30*
Design and technology: Resistant materials/CADCAM areas	High	High	40
Electronics/control/textiles, etc.	Average	Average	40
Art rooms	Average	Medium	40
Assembly[3]/multi-purpose halls[3] (PE, drama, audio/visual presentations, occasional music, assembly)	High	Low	35*
Audio-visual/video conference	Average	Low	35*
Atria, pupil circulation spaces	Average	Medium	45
Indoor sports hall	High	Medium	40
Dance studio	High	Medium	40
Gymnasium	High	Medium	40
Swimming pool	High	High	50
Interviewing/counselling/medical rooms	Low	Low	35*
Dining rooms	High	High	45
Ancillary spaces: Kitchens[†]	High	High	50
Offices[†], staff rooms[†]	Average	Medium	40
Corridors[†], stairwells[†]	Average-High	High	45
Coats and changing areas[†]	High	High	45
Toilets[†]	Average	High	50

* Teaching can be disrupted by individual noisy events even where the noise level is below the above limits. For rooms requiring 35 dB or less, the noise level should not regularly exceed 55 dB LA1, 30 min.
† The extension of Part E of Schedule 1 to the Building Regulations 2000 (as amended by SI 2002/2871) to schools applies to teaching and learning spaces and is not intended to cover administration and ancillary spaces. For these areas, the performance standards are for guidance only.
1 Acoustic considerations of open-plan areas are complex. A specialist acoustic consultant should be contacted.
2 Studios require specialised acoustic environments and the noise limits for these will vary with the size, intended use and type of room.
3 Halls are often multi-functional spaces (especially in primary schools) and the designer should design to the lowest indoor ambient noise level for which the space is likely to be used.
‡ This table is derived from BB 93, Table 1.1 page 9

Education: Fire

The ultimate objective of the regulations is first to protect the lives of occupants, emergency workers and those passing by or engaged in activities near to the building in question and, second, to try to minimise structural damage.

Knauf systems offer:
- **Minimise surface spread of flame**
- **Contain fire in discrete compartments**
- **Help maintain the structural integrity of the building**

Approved Document B
Among the provisions in the Approved Document are the following:

- B1: Means of warning and escape
- B2: Internal fire spread (linings)
- B3: Internal fire spread (structure)
- B4: External fire spread.

Fire considerations for education
The design of fire safety in schools is covered by Building Bulletin 100 – Design for fire safety in schools (also referred to as BB 100) published by the DfES. Part B of the Building Regulations will typically be satisfied where the guidance in that document is followed.

Fire resisting and smoke restricting construction
Much of the detailed construction design guidance in BB 100 is concerned to a greater or lesser degree with restricting the spread of fire and smoke by appropriate construction. This has three primary objectives:

- To prevent fire and smoke from spreading into protected routes: i.e. protected corridors and stairways
- To isolate areas where the risk assessment has identified hazardous areas or areas identified as critical to the functioning of the school
- To restrict disproportionate damage to the school as a result of a fire by means of compartmentation thus limiting the fire to the room of origin.

BB 100 recognises that it is important to restrict spread of fire so the normal working of the school can be resumed as soon as possible, minimising the harm to children's life chances when their school is destroyed by fire. At 1 metre from the relevant boundary, the wall only needs fire resistance from inside.

Places of special fire hazard: These areas need special consideration as they may either be High Hazard, i.e., the source of 'hot' activities thus contributing to a high risk area, or may represent a valuable resource that is difficult to replace.

Places of special fire hazard that require additional protection include the following:

- Boiler rooms
- Storage space for fuel or other highly flammable substances (including PE mats) or chemicals
- Laboratories
- Technology rooms with open heat sources
- Kitchens
- Oil-filled transformer and switch-gear rooms
- Rooms housing a fixed internal combustion engine.

Cloakrooms should also be regarded as places of special fire hazard.

Knauf systems can be used in all of these areas to provide up to 120 minutes fire resistance.

Protected escape routes: BB 100 states that: 'Protected stairways are designed to provide virtually 'fire sterile' areas which lead to places of safety outside the building. Once inside a protected stairway, a person can be considered to be safe from immediate danger from flame and smoke.'

Knauf fire-resistant systems, designed-in to escape routes, can help provide the necessary protection and compliance with Part B.

Protected shafts: Lift wells should be either:

(a) Contained within the enclosures of a protected stairway; or

(b) Enclosed throughout their height with fire-resisting construction if they are sited so as to prejudice the means of escape.

Ducts passing through the enclosure of a protected escape route should be fire-resisting.

Knauf Shaftwall and Firefighting Shaftwall can be constructed totally from one side and are ideal for lift and service shaft constructions.

Internal fire spread (linings): Part B requires that linings:

(a) Adequately resist the spread of flame over their surfaces; and

(b) Have, if ignited, a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

The choice of lining materials for walls and ceilings can significantly affect the spread of a fire and its rate of growth, even though they are not likely to be the materials first ignited. It is particularly important in circulation spaces where linings may offer the main means by which fire spreads and where rapid spread is most likely to prevent occupants from escaping.

Knauf plasterboards are tested together with Knauf Metal Studs and Fixings to give guaranteed periods of fire resistance as a complete system.

Compartmentation: The spread of fire within a building can be restricted by sub-dividing it into compartments separated from one another by walls and/or floors of fire-resisting construction. The object here is twofold:

- To prevent rapid fire spread which could trap occupants of the building
- To reduce the chance of fires becoming large fires which are more destructive, life threatening and liable to spread to other buildings

Special forms of compartmentation may be required where walls are common to two or more buildings, where walls divide buildings into separated parts, or where a construction encloses places of special fire hazard.

Northern Ireland
Technical Booklet E Fire Safety (2005): This document covers both dwellings and non-dwellings. Sections 2 and 3 deal with internal fire spread to linings and structure, respectively.

Scotland
Technical Handbook: Non-domestic, Section 2 Fire (2011): This Handbook covers new build work and work to existing non-dwellings.

Ireland
Technical Guidance Document B – Fire safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

+ Healthcare: Acoustic

The acoustic requirements for hospitals can be extremely complex and demanding. Knauf have the expertise, design tools, products and systems to provide tailor-made and compliant solutions to meet HTM and Building Regulation requirements.

- **Specifically designed acoustic systems with added performance characteristics; moisture resistance, impact resistance, etc.**
- **Free design service**

Acoustics: Technical design manual, is a guidance document to help healthcare professionals better understand acoustic requirements and to help designers build facilities that meet these requirements. In practice, a specialist acoustic adviser should be involved from outline design onwards to ensure that the complex criteria are met holistically. Acoustics: Technical design manual recommends acoustic criteria for:

- Noise levels in rooms – both from mechanical services within the building and for noise coming from outside
- External noise levels

- Sound insulation between rooms – allows rooms with differing noise requirements to exist side by side
- Impact sound insulation
- Room acoustics
- Audio systems
- Audiology facilities
- Vibration caused by plant

The document supersedes all other guidance by the Department of Health on acoustics. It is always advisable to check for updates and corrections on-line.

Internal sound insulation
Appropriate sound levels should be set for each room so that for instance, noisy activities do not interfere with the need for quiet in adjacent rooms; nor should private conversations be 'overhearable' from designated private rooms or areas.

Acoustic requirements for partitions and floors
The general parameters for these rooms and areas are set out in the Acoustics: Technical design manual, tables 3 (sound insulation parameters) and 4 (sound insulation ratings dB $D_{nT,w}$) and specific sound insulating performance requirements for an extensive range of room types are set out in table 5 of that document.

'Source' rooms and 'receiving' rooms: Rooms in a healthcare environment may have three sets of acoustic criteria to which they must comply:

i) Privacy requirement as a source room
ii) Noise generation as a source room
iii) Sensitivity to incoming noise as a receiving room.

Key parameters and criteria from Acoustics: Technical design manual:
The document sets out a series of tables progressively covering performance requirements as follows:

Table 1 – Criteria for noise intrusion from external sources: Sets out recommended allowable levels of noise intrusion for the completed building and covers rain noise, traffic noise, sirens etc.

Table 2 – Criteria for internal noise from mechanical and electrical services: Sets out the recommended levels of noise for areas within the healthcare environment from services such as medical equipment, plantrooms, nurse-call systems etc.

Table 3 – Sound insulation parameters for rooms: Sets out the privacy needs of a source room, its anticipated levels of noise generation (as a noise source) and the sensitivity of the space to incoming noise (as a receiving room). For example, a consulting room has a 'confidential' privacy requirement; 'typical' noise generation (source) levels and 'medium' sensitivity as a receiving room.

Table 4 – Sound insulation ratings (dB $D_{nT,w}$) to be achieved on site: Used to select the standard of sound insulation required based on the parameters from Table 3 in terms of weighted standardised level difference ($D_{nT,w}$). Again, taking the consulting room as an example, as a confidential room with typical noise generation and medium sensitivity, it requires a $D_{nT,w}$ 47 dB sound insulation rating as a receiving room.

Table 5 – Matrix showing sound insulation performance required (dB $D_{nT,w}$): Summarises the installed sound installation performance ($D_{nT,w}$) required for a range of healthcare rooms and other spaces across the categories of clinical, public and staff areas. The table gives values for rooms both as source and receiving rooms.

Knauf system solutions for healthcare can help compliance
Knauf products are tested as complete systems – plaster, plasterboard, metal sections and fixings, together – and give proven levels of acoustic performance for a very wide range of applications. Throughout this Manual you will find healthcare specific solutions developed through our years of experience working on the UK's largest hospitals. Look for the healthcare icon.

Northern Ireland
Technical Standards G1 and G2: G1 covers the reduction of sound transmission and reverberation in new buildings. G 'Sound conversions' covers the reduction of sound transmission and reverberation in conversions.

Scotland
Technical Handbook Section 5, non-domestic: This Handbook covers new build work and work to existing buildings other than dwellings.

Ireland
Technical Guidance Document E – Sound: The Technical Documents, commonly known as TGD's give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

✚ Healthcare: Fire

In environments containing large numbers of infirm and immobile people, the ability of the fabric of those buildings to minimise fire risk, contain fire spread and maximise structural stability is absolutely paramount.

Knauf systems offer:
- **Fire-resisting periods from 30–120 minutes**
- **Specialised products and systems such as steelwork encasements and linings to lift shafts**
- **Our Technical Services team can design bespoke solutions, compartmentation, communal areas, internal escape routes, etc.**

Healthcare fire considerations

HTM 05-02 'Firecode – fire safety in the NHS' is a code of practice that contains guidance and measures to satisfy all of the requirements of Approved Document B and applies to the full range of premises used for the provision of treatment or care - new, refurbishment, or change of use.

As fire safety is dependent not only on the physical fire precautions provided, HTM 05-02 also considers the fire safety implications of:

- The dependency of the patient
- Fire hazards within the hospital
- Management policies
- Availability of sufficient and adequately trained staff.

Where Knauf products can help with compliance

Means of escape: Healthcare establishments must be constructed so that there are appropriate means of escape in the event of a fire. This requires means of vertical and horizontal escape that are fire resistant and/or minimise heat release once ignited.

Internal fire spread (linings): In a similar fashion to means of escape, linings can inhibit the spread of fire within the building generally if they adequately resist the spread of flame over their surfaces. Additionally, they should, if ignited, have a rate of heat release that is suited to whichever area of the hospital they have been used for.

In both these areas of construction, Knauf products – plasterboards, metal components and fixings, tested together as complete systems – offer defined periods of fire resistance.

Compartmentation: Compartmentation is a form of construction used to help prevent the spread of fire to or from another part of the same building or an adjoining building.

'Compartment' floors or walls are fire-resisting constructions used to separate one fire compartment from another and require a minimum period of resistance of 60 minutes (30 minutes in single storey buildings).

Knauf systems are an ideal means of achieving a wide variety of compartment types with differing but defined periods of fire resistance along with other acoustic or thermal properties, if required.

Periods of fire resistance

The performance of those elements of the building that are required to achieve a specified period of fire resistance is determined by reference to BS 476-20–24: 1987.

Minimum periods of fire resistance for compartment walls[†]

Hospital construction	Unsprinklered	Sprinklered
Single-storey healthcare buildings	30 minutes	30 minutes
Healthcare buildings with storeys up to 12 m above ground level or basements no more than 10m deep	60 minutes	30 minutes* (Basements 60 minutes)*
Healthcare buildings with storeys over 12 m above ground level or basements no more than 10m deep	90 minutes	60 minutes*
Healthcare buildings with storeys over 30 m and floors over 12 metres above ground	120 minutes	90 minutes*

* The reduction in fire resistance is conditional upon clear instructions regarding the maintenance and inspection requirements for the sprinkler system.
† Derived from HTM 05-02, Table 2, page 24.

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The table below summarises the specific requirements for each element in terms of load-bearing capacity, integrity and insulation.

Specific periods of fire resistance for building elements[†]

Part of building	Minimum provisions when tested to the relevant part of BS 476[1] (minutes)			Minimum provisions when tested to the relevant European Standard[3] (minutes)	Method of exposure
	Load bearing capacity[2]	Integrity	Insulation		
Structural frame beam or column	see Table 2‡	n/a	n/a	R (see Table 2‡)	Exposed faces
Load-bearing wall	see Table 2‡	n/a	n/a	R (see Table 2‡)	Each side separately
Compartment floor[4,5]	60	60	60	REI 60	From the underside
Comparment wall[6] Single-storey buildings	n/a	60[7] 30	60[7] 30	REI 60 REI 30	Each side separately
Sub-compartment wall[6]	n/a	30	30	EI 30	Each side separately
Wall to a fire hazard room	n/a	30	30	REI 30	Each side separately
Protected shaft	60	60	60	REI 60	Each side separately
Fire-fighting shafts	120	120	120	REI 120	From side remote from shaft
1) construction separating the shaft from the building	60	60	60	REI 60	From shaft side
2) construction separating fire-fighting stairway from fire-fighting lift shaft and fire-fighting lobby	60	60	60	REI 60	Each side separately
Cavity barrier[8]	n/a	30	15	EI 30	Each side separately
Fire-resisting ceiling as described in HTM 05-02 paragraphs 5.23 and 6.30	n/a	30	30	E 30	From below

1 BS 476-2 for load bearing elements; BS 476-22 for non-load bearing elements; BS 476-23 for fire protecting suspended ceilings; and BS 476-24 for ventilation ducts. BS 476-8 results are acceptable for items tested or assessed before 1st January 1988.
2 Applies to load bearing elements only (see Approved Document B - B3.ii and Appendix E).
3 The national classifications do not automatically equate with the equivalent classifications in the European column; therefore, products cannot typically assume a European class unless they have been tested accordingly.
   • "R" is the European classification of the resistance to fire performance in respect of load bearing capacity.
   • "E" is the European classification of the resistance to fire performance in respect of integrity.
   • "I" is the European classification of the resistance to fire performance in respect of insulation.
4 See Table 2‡ for floors that are over 12m and 30m above ground level.
5 Guidance on increasing the fire resistance of existing timber floors is given in BRE Digest 208 'Increasing the fire resistance of existing timber floors'.
6 Except for any limitations on glazed elements.
7 May be reduced if sprinklers are installed.
8 For the purposes of meeting the Building Regulations, cavity barriers will be deemed to have satisfied the provisions above, provided that they achieve an integrity requirement of at least 30 minutes and an insulation requirement of at least 15 minutes.
‡ HTM 05-02 Table 2 – Fire resistance of elements of structure, page 24.
† Derived from HTM 05-02 Table A1, pages 51–52.

Northern Ireland
Technical Booklet E Fire Safety (2005): This document covers both dwellings and non-dwellings. Sections 2 and 3 deal with internal fire spread to linings and structure, respectively.

Scotland
Technical Handbook: Non-domestic, Section 2 Fire (May 2007): This Handbook covers new build work and work to existing non-dwellings.

Ireland
Technical Guidance Document B – Fire safety: The Technical Documents, commonly known as TGDs, give guidance on how to construct a building so that it complies with the Regulations. Where works are carried out in accordance with the TGDs, this will indicate compliance with the Regulations. The adoption of an approach different to the TGDs is not prohibited, provided that the approach meets the requirements of the Regulations.

Generate specifications at www.knauf.co.uk

Our Service to You

Quality

The Knauf Group is one of the largest drywall manufacturers in the world, with a group turnover in excess of €2.5billion. Still privately owned, with our head office in Germany, we pride ourselves on the quality of our products and our commitment to staff and customers – not shareholders. Knauf manufacture in the UK to EN 520, BS 1191 and BS EN ISO 9000 using advanced production facilities.

Our sites are ISO 14001 certified for environmental management.

Performance

Our systems use Knauf materials throughout – board, metal, insulation, plaster and accessories. All are manufactured to strict British and European Standards and are thoroughly independently tested together as complete, warranted systems. Fire, acoustic, robustness, longevity, and structural performance are all tested for the relevant application. Full details can be found online, or in this Manual.

Service – throughout the supply chain

As a specifier, you can benefit from friendly, expert technical advice from our Technical Service teams, our in-depth literature (including the RIBA CPD approved Design Partner Series) and our award-winning website (CAD downloads, interactive tools, system information and so on). Our commitment to service goes far deeper, though, extending throughout the supply chain to ensure that the delivery and installation process on-site is as smooth as possible.

Innovation

Can you still innovate in plaster and drywall systems? We believe so. Our fire and sound rated Aquapanel Interior tile backing systems can be completely saturated without losing any performance. Seamless Apertura perforated boards offer endless design opportunities with exceptional sound absorption properties. Knauf Acoustic Stud significantly increases sound reduction without increasing width or complexity. Knauf plasters are 3 times faster than traditional 2 coat, and without the mess. Knauf Brio dry floor screed boards are light, strong and maximise underfloor heating efficiency.

Knauf Safeboard is an X-ray shielding plasterboard with a barium sulphate core. It effectively and significantly reduces the amount of lead needed within X-ray shielding partitions, in many cases removing the need for lead altogether.

Generate specifications at **www.knauf.co.uk**

Time

Time is precious and we know that you are busy. That is why we have developed a whole host of timesaving devices for the specifier. Our online Partition Selector chooses the correct partitions for your requirements (you can value engineer multiple partitions too) and writes the specification for you – you can have the full specifications in PDF for, say, 10 partitions, in a matter of minutes.

It will also create bespoke technical manuals for you at the same time. Our system literature provides sector-specific guidance to regulations, and optimised systems that we know are ideal for that sector's requirements. Our Technical Services department won't keep you hanging on the telephone.

The Environment

We use recycled materials wherever possible in our manufacturing processes and are committed to taking back and re-processing waste plasterboard from sites. The paper liners on our boards are from 100% recycled stock. We use recycled and 100% synthetic gypsum whenever possible – normally desulpherised gypsum (a by-product from power stations). And of course, we are ISO 14001 certified.

Project and Specification Managers

Our national team of Project & Specification Managers (PSMs) can provide help and support throughout the duration of your project. They are often involved with the entire supply chain from the distributor through to the client, speeding up the flow of information, and spotting and eliminating likely issues. Our PSMs are all highly skilled and technically qualified, and specialise in bespoke design and value engineering large projects.
Call 01795 416259 to find out more.

The Technical Services team

Our office-based Technical Support Officers (TSOs) work hand in hand with our PSM team, providing design back-up and a quick response to all your technical enquiries. Our TSOs are all technically qualified and enjoy comprehensive and ongoing training. Our commitment to investing in people has resulted in a large number of TSOs going on to become PSMs in the field, and the two teams have an excellent working relationship – enhancing the level of service you can expect from us.
Call 01795 416259 for technical advice.

CPD

Knauf are active members of the RIBA CPD Providers Network. We offer a range of CPD essential seminars designed to enhance and increase the knowledge and skills of the professional architect.
For more information, call 01795 424499.

Generate specifications at **www.knauf.co.uk**

Supporting Tools and Literature

Online
Our award-winning website is an invaluable tool and features CAD downloads, interactive tools, system information and much more.

www.knauf.co.uk

The Manual online
The online partner to this document quickly gives you the information you need on our products and systems, wherever you are.

Generate specifications at **www.knauf.co.uk**

Partition Specifier
How would you like to specify and value engineer all the drywall partitions on your project, complete with paperwork, in a few minutes? Our online Partition Specifier does exactly that – and it's totally free for you to use. Just part of the service. Try it and our other online tools at www.knauf.co.uk – you won't be disappointed.

BB93 calculator
Makes specifying for schools easy. Simply choose the source and receiving rooms and enter the required data in the spaces provided.

Literature
We know that different sectors have their own unique requirements and dedicated regulations. That's why we created our Design Partner series of technical guides – they're far quicker to reference than the regulations, without being dumbed down. And they give you access to our sector-optimised systems and specification advice.

Order your free copies on 08700 613700. Alternatively, they can be downloaded from: www.knauf.co.uk

Our Design Partner Series includes technical guides for Housing, Hospitals, Schools, Commercial, Retail and Leisure buildings. Combine these with our award-winning online Manual, with its tools to specify partitions, write O&M Manuals and calculate BB93 performances and you can make short work of specifying even the largest project.
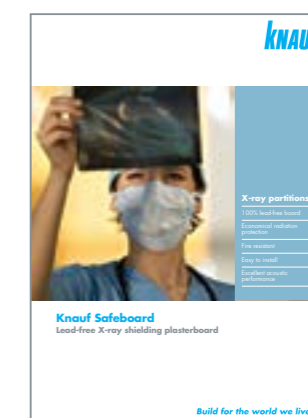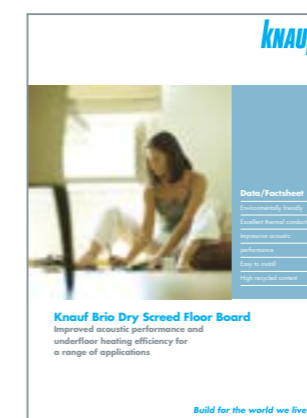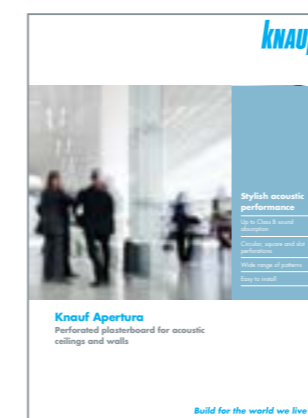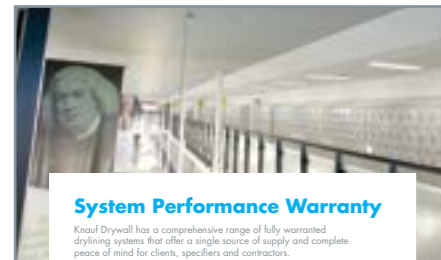
Generate specifications at **www.knauf.co.uk**

System Performance Warranty

Your peace of mind.

Knauf's range of comprehensive fully warranted drylining systems offer a single source of supply and complete peace of mind for clients, specifiers and contractors.

Our systems have been developed as complete drywall constructions to ensure consistent and effective performance on-site. Knauf products are tested together as component parts of these systems to recognised standards: for correct warranted performance only genuine Knauf components should be used.

The Knauf System Performance Warranty ensures your drywall systems are:

- **Designed to perform consistently for the lifetime of the system**
- **Fully supported by Knauf Technical Services both pre-site and during construction**
- **Guaranteed in the unlikely event of unsatisfactory product or system performance**

All the systems in this brochure are covered by our comprehensive Knauf Performance Warranty, giving you the assurance that the systems you specify and install will perform to specification.

Our full system and product warranty statements are available from Knauf Technical Services on 01795 416259, our literature line on 08700 613700 and online at www.knauf.co.uk

Knauf: A Family Business

Family principles, global dimensions

Knauf is a family name and a corporate group of global dimensions, but at the same time synonymous with a type of corporate culture which has become rare. Knauf is a typical family firm in spite of its size and this is precisely the reason for its amazing success. It is the short and direct decision-making paths, the courage to tackle new ideas, innovations, investments and the wealth of ideas contributed by all Knauf employees that characterise the company.

Knauf was founded in 1932 and has expanded and diversified to become a corporation with worldwide activities, delivering products and services in many fields:

- Building materials and systems based on gypsum and gypsum-related products
- Thermal insulating and sound insulation materials
- Limestone and lime products
- Chalk and cement-related products
- Mechanical engineering
- Pre-formed parts
- Interior construction
- DIY products
- Facades
- Logistics

For further information on the Knauf Group visit: www.knauf.com

Knauf in the UK

The successful development of the UK business started in 1988 with the construction of our first plasterboard plant in Sittingbourne, Kent. A second plasterboard plant at Immingham, N.E. Lincolnshire, and a plaster plant at Sittingbourne closely followed. To date, in excess of £100 million has been invested in the most advanced manufacturing technology, making Knauf one of the largest suppliers of gypsum-based building materials in the UK.

Knauf is firmly committed to on-going technology developments and diversification, working closely with the industry to deliver quality, innovative, cost-effective products to our customers. Knauf systems have been used and installed around the world with proven success. In the UK, products have the quality assurance of the Company's BS EN ISO 9001:2000 and BS EN ISO 14001 certification.

To ensure that this success continues into our third decade, we are not only working to continually improve the quality of current products and services, but constantly monitoring and evaluating trends for new materials, technologies and systems. In this way we can identify and develop each new opportunity to maintain our leading edge position.

Gypsum, a sustainable material

Huge deposits of natural gypsum were laid down 100 to 200 million years ago. These are now extracted by both open cast and underground mining. The extraction process requires only small surface areas, minimising interruption of natural processes in terms of space and time.

FGD Gypsum

Flue Gas Desulphurisation (FGD) systems are used by coal-fired power stations to reduce emission levels. Knauf was instrumental in the research, development and implementation process that has enabled the use of one of the end products of the cleaning process (FGD gypsum – chemically identical to natural gypsum) in the manufacture of its products.

Knauf recycle every available tonne of this resource, constantly checking its quality, into a range of our high-quality products.

In addition, we are increasingly incorporating recycled site-waste gypsum into our products which, themselves, remain completely recyclable.

For more information on sustainability, please see pages 278–283.
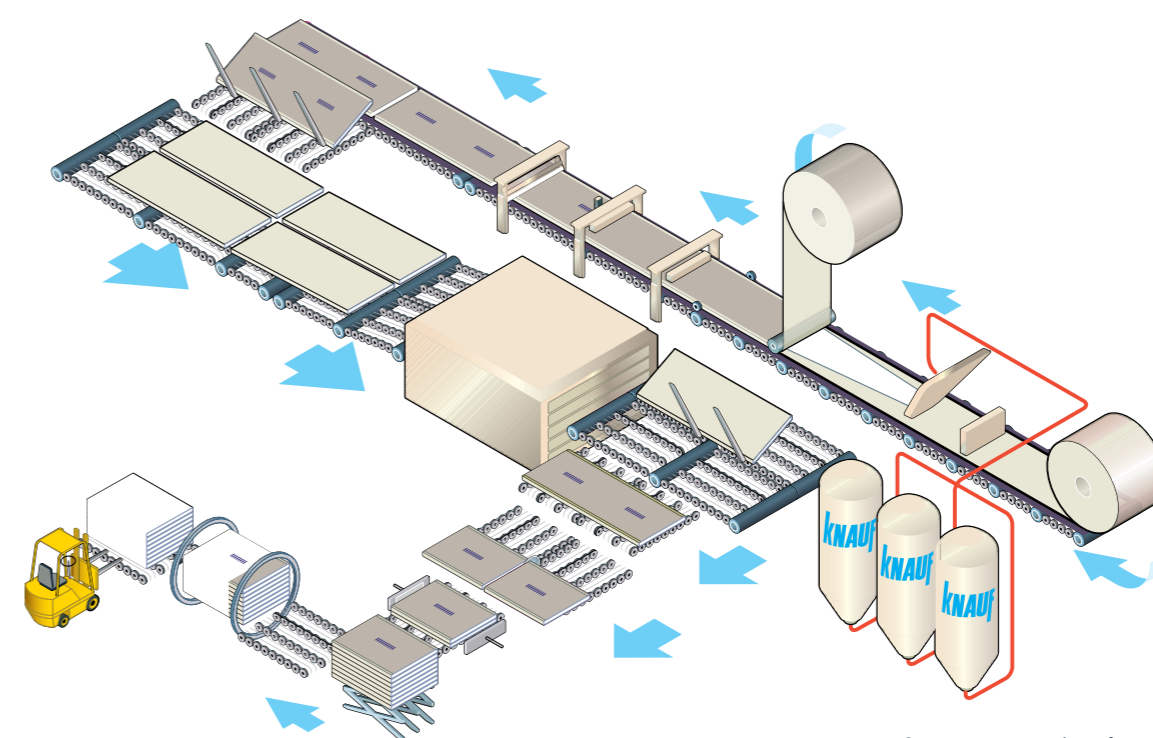
Appendices

Performance tables

For more information on these and other system performances,
please contact Knauf Technical Services on 01795 416259.

Knauf Performer 'C' Stud partition performance information

Dimensions (mm)				Maximum height (mm)¹			Acoustic rating (dB Rw)				Fire rating (resistance in minutes)					
				'C' Stud centres			Wallboard³		Soundshield Plus/ Performance Plus		BS 476			EN 1364		
'C' Stud depth and gauge	Overall width	Board width	Layers	600mm	400mm	300mm	No Insulation	With Insulation²	No Insulation	With Insulation²	Wallboard⁴	Soundshield Plus	Fire Panel/ Performance Plus/ Impact Panel	Wallboard⁴	Soundshield Plus	Fire Panel/ Performance Plus/ Impact Panel
50mm (0.55)	77	12.5	1	2500	2900	3100	35	40	37	43	30	30	30	–	30	30
	82	15	1	2800	3100	3300	37	42	40	44	30	60	60	30	60	60
	102	12.5	2	3400	3600	3800	42	48	47	52	60	60	120	60	60	120
	112	15	2	3700	3900	4000	45	49	49	54	90	120	120	60	120	120
60mm (0.55)	87	12.5	1	3200	3500	3800	35	40	37	43	30	30	30	–	30	30
	92	15	1	3400	3700	4000	37	42	40	44	30	60	60	30	60	60
	112	12.5	2	4100	4300	4600	42	48	47	53	60	60	120	60	60	120
	122	15	2	4400	4600	4800	46	49	49	54	90	120	120	60	120	120
70mm (0.55)	97	12.5	1	3600	4000	4300	36	42	40	45	30	30	30	–	30	30
	102	15	1	3800	4200	4500	39	44	42	45	30	60	60	30	60	60
	122	12.5	2	4600	4900	5100	46	49	49	54	60	60	120	60	60	120
	132	15	2	4900	5100	5300	47	51	51	55	90	120	120	60	120	120
70mm Acoustic (0.6)	97	12.5	1	3800	4200	4500					30	30	30	–	30	30
	102	15	1	4000	4400	4700	40		43	48	30	60	60	30	60	60
	122	12.5	2	4800	5100	5300					60	60	120	60	60	120
	132	15	2	5100	5300	5500					90	120	120	60	120	120
92mm (0.7)	119	12.5	1	4800	5200	5600	36	42	40	45	30	30	30	–	30	30
	124	15	1	5000	5400	5800	39	44	42	46	30	60	60	30	60	60
	144	12.5	2	6000	6300	6500	46	49	49	54	60	60	120	60	60	120
	154	15	2	6200	6500	6700	48	52	51	55	90	120	120	60	120	120
146mm (0.55)	173	12.5	1	6200	6900	7500	38	43	42	47	30	30	30	–	30	30
	178	15	1	6500	7200	7700	40	44	43	48	30	60	60	30	60	60
	198	12.5	2	7600	8100	8500	48	51	51	54	60	60	120	60	60	120
	208	15	2	7900	8400	8700	49	53	55	57	90	120	120	60	120	120

1   Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476: Part 22: 1987. For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.
2   One layer of 25mm Knauf Earthwool Acoustic Roll.
3   The acoustic ratings for Wallboard also apply to all Knauf plasterboard types except for Knauf Soundshield Plus and Knauf Performance Plus.
4   The fire ratings for Wallboard in this column also apply to Knauf Moisture Panel.

Appendices

Performance tables

For more information on these and other system performances,
please contact Knauf Technical Services on 01795 416259.

Knauf Performer 'I' Stud partition performance information

Dimensions (mm)				Maximum height (mm)[1]			Fire rating (resistance in minutes)					
				'I' Stud centres			BS 476			EN 1364		
'I' Stud depth and gauge	Overall width	Board width	Layers	600mm	400mm	300mm	Wallboard[2]	Soundshield Plus	Fire Panel/ Performance Plus/ Impact Panel	Wallboard[2]	Soundshield Plus	Fire Panel/ Performance Plus/ Impact Panel
50mm (0.55)	77	12.5	1	2900	3400	3700	30	30	30	–	30	30
	82	15	1	3100	3500	3800	30	60	60	30	60	60
	102	12.5	2	3700	3900	4200	60	60	120	60	60	120
	112	15	2	3900	4200	4400	90	120	120	60	120	120
60mm (0.55)	87	12.5	1	3600	4000	4400	30	30	30	–	30	30
	92	15	1	3800	4200	4500	30	60	60	30	60	60
	112	12.5	2	4400	4700	5000	60	60	120	60	60	120
	122	15	2	4600	4900	5200	90	120	120	60	120	120
70mm (0.70)	97	12.5	1	4600	5100	5600	30	30	30	–	30	30
	102	15	1	4700	5300	5700	30	60	60	30	60	60
	122	12.5	2	5300	5700	6100	60	60	120	60	60	120
	132	15	2	5500	5900	6300	90	120	120	60	120	120
92mm (0.90)	119	12.5	1	6000	6800	7400	30	30	30	–	30	30
	124	15	1	6100	6900	7500	30	60	60	30	60	60
	144	12.5	2	6800	7400	7900	60	60	120	60	60	120
	154	15	2	6900	7500	8000	90	120	120	60	120	120
146mm (0.90)	173	12.5	1	8300	9400	10300	30	30	30	–	30	30
	178	15	1	8500	9600	10500	30	60	60	30	60	60
	198	12.5	2	9200	10100	10900	60	60	120	60	60	120
	208	15	2	9400	10300	11100	90	120	120	60	120	120

1   Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa.
    These relate to fire resistances in accordance with BS 476: Part 22: 1987.
    For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.
2   The fire ratings for Wallboard in this column also apply to Knauf Moisture Panel.

   Note: For acoustic ratings for specific Knauf 'I' Stud partitions, please contact Knauf Technical Services.

Appendices

Performance tables

For more information on these and other system performances,
please contact Knauf Technical Services on 01795 416259.

Knauf Easybuild

Dimensions (mm)				Maximum height (mm)	Acoustic rating (dB Rw)	Fire rating (resistance in minutes)	
Stud depth and gauge	Overall width	Board width	Layers	Stud centres 900mm		BS 476	EN 1364
50mm Acoustic 'C' (0.60)	82	15	1	2600	40	30	30

Note: All data relates to the use of Knauf Soundshield Plus

Knauf Isolator

Dimensions (mm)				Maximum height (mm)[1]	Acoustic rating[1] ($D_{nT,w}+C_{tr}$)	Fire rating[1] (resistance in minutes)
Stud depth and gauge	Overall width	Board width	Layers			BS 476
70mm 'C' (0.55)	250	12.5	2	3000	45	60

Dimensions (mm)				Maximum height (mm)[2]	Acoustic rating[2] (dB Rw)	Fire rating[2] (resistance in minutes)
Stud depth and gauge	Overall width	Board width	Layers			BS 476
50mm 'C' (0.55)	170	15	2	2600	63	90
50mm 'I' (0.55)	170	15	2	3100	63	90
70mm 'C' (0.55)	210	15	2	3000	65	90
70mm 'I' (0.70)	210	15	2	4300	65	90

Dimensions (mm)				Maximum height (mm)[3]	Acoustic rating (dB Rw)	Fire rating (resistance in minutes)
Stud depth and gauge	Overall width	Board width	Layers			BS 476
92mm 'I' (0.90)	300	15	2	5700	69[4]	90[4]
92mm 'I' (0.90)	550	15	3	5700	75[4]	120[4]
92mm 'I' (0.90)	550	15	3	5700	76[5]	120[5]

1 Data relates to use of Knauf Soundshield Plus and 50mm Knauf Earthwool Universal Slab RS33.
2 Data relates to use of Knauf Soundshield Plus and 2 layers of 25mm Knauf Earthwool Acoustic Roll.
3 Maximum height data relate to the use of unbraced Knauf 'I' Stud systems and are based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476: Part 22: 1987. For data in relation to the use of Knauf 'C' Studs, braced at maximum 1500mm centres with acoustic braces [by others], please contact Knauf Technical Services.

4 Data relates to use of Knauf Soundshield Plus and 100mm Knauf Earthwool Acoustic Roll.
5 Data relates to use of Knauf Soundshield Plus and 2x100mm Knauf Earthwool Acoustic Roll.

Note: Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

Knauf Shaftwall

Dimensions (mm)				Maximum height (mm)[3]	Acoustic rating (dB Rw)		Fire rating[3] (resistance in minutes)
Stud depth and gauge	Overall width	Board width	Layers		No Insulation	With Insulation[2]	BS 476
60mm 'C-T' (0.92)	77	15	1	4300	34	41	60
	87	12.5	2	4900	37	45	90
	92	15	2	5000	41	46	120
92mm 'C-T' (0.92)	109	15	1	6200	40	45	60
	119	12.5	2	6400	42	46	90
	124	15	2	6700	43	48	120
146mm 'C-T' (0.92)	163	15	1	7400	41	46	60
	173	12.5	2	7900	45	50	90
	178	15	2	8000	45	50	120

1 Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476: Part 22: 1987. For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.
2 One layer of 25mm Knauf Earthwool Acoustic Roll.
3 Fire ratings quoted in accordance with BS 476: Part 22: 1987 (Integrity Only). The temperature of the exposed flange of the 'C-T' Stud may exceed the requirements of BS 476: Part 22:1987 within the quoted fire test period. Relaxation should be sought from the approving Authority on the basis that no combustible materials are likely to be stored adjacent to the structure where the full insulation period is required. For ratings in accordance with EN 1364-1: 1999, please contact Knauf Technical Services.

Note: All data relates to the use of Knauf Fire Panel, Knauf Performance Plus or Knauf Impact Panel on the non-shaft side.

Knauf Silent Spacesaver

Dimensions (mm)					Maximum height (mm)[1]	Acoustic rating (dB Rw)	Fire rating[2] (resistance in minutes)
Stud depth and gauge	Overall width	Board width	Layers	Channel (mm)			BS 476
60mm 'I' (0.55)	122	12.5	2	72	3500	57*	60
	132	15	2	72	3500	60*	90
60mm 'I' (0.7)	122	12.5	2	72	3800	57*	60
	132	15	2	72	3800	60*	90
92mm 'I' (0.9)	198	12.5	2	148	5700	61**	60
	208	15	2	148	5700	62*	90

* One layer of 50mm Knauf Earthwool Acoustic Roll should be used.
** One layer of 25mm Knauf Earthwool Acoustic Roll should be used.
1 Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476: Part 22: 1987. For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.
2 Fire ratings quoted in accordance with BS 476: Part 22: 1987. For ratings in accordance with EN 1364-1:1999, please contact Knauf Technical Services.

Note: All data relates to the use of Knauf Soundshield Plus.

Appendices

Performance tables

For more information on these and other system performances, please contact Knauf Technical Services on 01795 416259.

Knauf 'I' Stud Linings

Dimensions (mm)				Maximum height (mm)²			Fire rating BS 476 (resistance in minutes)³	
'I' Stud depth and gauge	Overall width¹	Board width	Layers	600mm Stud centres	400mm Stud centres	300mm Stud centres	Wallboard/ Soundshield Plus	Fire Panel/ Performance Plus/ Impact Panel
50mm 'I' (0.55)	63	12.5	1	3100	3600	3900	–	30
	65	15	1	3100	3600	3900	–	60
	75	12.5	2	3100	3600	3900	60	60
	80	15	2	3100	3600	3900	60	90
60mm 'I' (0.55)	73	12.5	1	3500	4100	4500	–	30
	75	15	1	3500	4100	4500	–	60
	85	12.5	2	3500	4100	4500	60	60
	90	15	2	3500	4100	4500	60	90
60mm 'I' (0.70)	73	12.5	1	3800	4400	4800	–	30
	75	15	1	3800	4400	4800	–	60
	85	12.5	2	3800	4400	4800	60	60
	90	15	2	3800	4400	4800	60	90
70mm 'I' (0.70)	83	12.5	1	4300	4900	5400	–	30
	85	15	1	4300	4900	5400	–	60
	95	12.5	2	4300	4900	5400	60	60
	100	15	2	4300	4900	5400	60	90
92mm 'I' (0.90)	105	12.5	1	5700	6500	7100	–	30
	107	15	1	5700	6500	7100	–	60
	117	12.5	2	5700	6500	7100	60	60
	122	15	2	5700	6500	7100	60	90
146mm 'I' (0.90)	159	12.5	1	8000	9100	10000	–	30
	161	15	1	8000	9100	138	–	60
	171	12.5	2	8000	9100	10000	60	60
	176	15	2	8000	9100	10000	60	90

1   Overall width for Knauf lining system only.
2   Maximum heights calculated based on a limiting deflection of L/240 at 200 Pa. These relate to fire resistances in accordance with BS 476: Part 22: 1987. For maximum heights in relation to the use of EN 1364-1: 1999 please contact Knauf Technical Services.
3   Fire resistance period for complete wall structure including external steel cladding to BS 476: Part 22: 1987 (Integrity only).

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